YAMAHA

READ THIS MANUAL CAREFULLY!
It contains important safety information.

OWNER'S MANUAL

RHINO 660

YXR660FAT

LIT-11626-18-46

5UG-F8199-11

⚠ WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

YAMAHA LIT-CALIF-65-01

INTRODUCTION

Congratulations on your purchase of the Yamaha YXR660FA. It represents the result of many years of Yamaha experience in the production of fine sporting, touring, and pace-setting racing vehicles. With the purchase of this Yamaha, you can now appreciate the high degree of craftsmanship and reliability that have made Yamaha a leader in these fields.

This manual will provide you with a good basic understanding of the features and operation of this vehicle. It also includes basic maintenance and inspection procedures. If you have any questions regarding the operation or maintenance of your vehicle, please consult a Yamaha dealer.

⚠ WARNING

Please read this manual carefully before operating this vehicle. Do not attempt to operate this vehicle until you have attained adequate knowledge of its controls and operating features. Regular inspections and careful maintenance, along with good operating techniques, will help ensure that you safely enjoy the capabilities and reliability of this vehicle.

IMPORTANT MANUAL INFORMATION

FAILURE TO FOLLOW THE WARNINGS CONTAINED IN THIS MANUAL CAN RESULT IN SERIOUS INJURY OR DEATH.

Particularly important information is distinguished in this manual by the following notations:

⚠	**The Safety Alert Symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**
⚠ WARNING	**Failure to follow WARNING instructions could result in severe injury or death to the vehicle operator, a bystander or a person inspecting or repairing the vehicle.**
CAUTION:	**A CAUTION indicates special precautions that must be taken to avoid damage to the vehicle.**
NOTE:	A NOTE provides key information to make procedures easier or clearer.

IMPORTANT NOTICE

- **This vehicle is designed and manufactured for off-road use only. It is illegal to operate this vehicle on any public street, road, or highway. Such use is prohibited by law.**
- **Check the laws and regulations in force before choosing where to operate this vehicle. It is illegal to operate this vehicle on public lands where vehicles its size are prohibited.**
- **This vehicle complies with almost all state off-highway noise level and spark arrester laws and regulations.**

AFFIX DEALER

LABEL HERE

YXR660FAT
OWNER'S MANUAL
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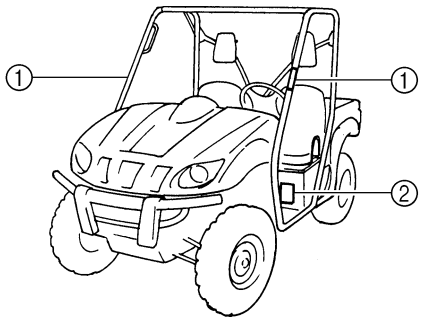
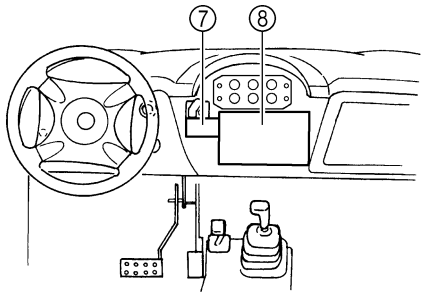
LOCATION OF THE WARNING AND SPECIFICATION LABELS





Read and understand all of the labels on your vehicle. They contain important information for safe and proper operation of your vehicle.

Never remove any labels from your vehicle. If a label becomes difficult to read or comes off, a replacement label is available from your Yamaha dealer.

①

⚠ WARNING

The enclosure cannot protect occupants in all foreseeable accidents, including rollover.

YAMAHA 5UG-K8483-00

②

⚠ WARNING

IMPROPER TIRE PRESSURE OR OVERLOADING CAN CAUSE LOSS OF CONTROL.
LOSS OF CONTROL CAN RESULT IN SEVERE INJURY OR DEATH.
OPERATING TIRE PRESSURE: Set with tires cold.

RECOMMENDED:	FRONT:	70kPa,	{.70kgf/cm},	10psi
	REAR:	98kPa,	{.98kgf/cm},	14psi
MINIMUM:	FRONT:	63kPa,	{.63kgf/cm},	9psi
	REAR:	91kPa,	{.91kgf/cm},	13psi

Never set tire pressure below minimum. Tire may dislodge from rim.
Gross Vehicle Weight Rating: 907 kg (2000lb) maximum including weight of operator, passenger, accessories, cargo, and (if applicable) trailer tongue weight.

YAMAHA 5UG-F1696-01

③

WARNING

- Keep hands, body, other persons away when closing bed.
- Do not operate the vehicle with bed up.

YAMAHA 5UG-K7764-00

④

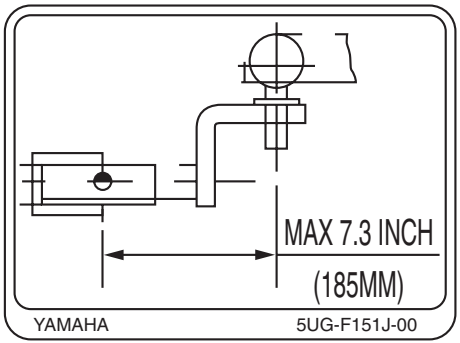
WARNING

Severe INJURY or DEATH can result if you ignore the following:

- Maximum Load in Cargo Bed:181kg. (400lb).
- Never carry passengers in cargo bed.
- Cargo can affect handling and stability. Read Owner's Manual before loading or towing.
- When loading with cargo or towing a trailer: Reduce speed and allow more room to stop. Avoid hills and rough terrain.
- Be sure cargo is secured - a loose load could change handling unexpectedly.
- Keep weight in the cargo bed centered, and as low and far forward as possible. Top-heavy loads increase the risk of overturn.

YAMAHA 5UG-F4897-00

⑤



⑥

⚠ WARNING

Improperly loading a trailer and failure to use extra care when pulling trailer can cause an accident or injury. Never load more than 50kg (110 lbs) tongue weight on the towing bracket. Do not tow more than 550kg (1212 lbs) rolling weight (trailer plus cargo). Operate in low-range gears only, allow for increased braking distance, and use extreme caution when operating on inclines. Read carefully the loading information and trailer hitch sections in the owner's manual.

YAMAHA 5UG-F151K-02

⑦

⚠ WARNING

Turning the off road vehicle in 4WD-LOCK ("DIFF.LOCK") takes more effort.

Operate at a slow speed and allow extra time and distance for maneuvers to avoid loss of control.

5UG-F1558-00

⑧

⚠ WARNING

Improper use can result in Severe INJURY or DEATH.

This off-highway utility vehicle will handle and maneuver differently from an ordinary passenger car or other vehicle.

- Vehicle capacity: 1 operator and 1 passenger. Passenger must be able to reach and hold the handgrip inside enclosure.
- This vehicle is recommended only for operators 16 and older with a valid motor vehicle license. Adults must supervise use by minors. Check state laws for minimum age requirements.
- Gross Vehicle Weight Rating: 2000 lb (907 kg) maximum including operator, passenger, accessories, cargo and trailer tongue weight.
- Passenger and cargo can affect vehicle handling.

ALWAYS

- wear a seat belt when riding in the vehicle.
- keep your hands and feet inside the vehicle at all times-watch for branches, brush, or other hazards that could enter the vehicle.
- drive straight up and down inclines-driving across the side of an incline increase the risk of overturn.

NEVER

- operate through water deeper than 13" (33cm) or fast flowing water-if you must cross shallow, slow moving water, choose your path carefully to avoid sharp drop-offs, large rocks, or slippery surfaces that could cause the vehicle to overturn.
- make sharp, high-speed turns-the vehicle could roll over or go out of control.

ALWAYS USE AN APPROVED HELMET AND PROTECTIVE GEAR

NEVER USE ON PUBLIC ROADS OR PAVEMENT

NEVER USE WITH DRUGS OR ALCOHOL

LOCATE AND READ THE OWNER'S MANUAL. FOLLOW ALL INSTRUCTIONS AND WARNINGS.

YAMAHA

5UG-F1568-01

SAFETY INFORMATION

This off-highway utility vehicle handles differently from other vehicles including cars and ATVs. SEVERE INJURY OR DEATH can result if you do not follow these instructions:

- Read this manual and all labels carefully and follow the operating procedures described.
- This vehicle is designed to carry the driver and one passenger. Never carry passengers in the cargo bed.
- Always be sure the driver and passenger are wearing seat belts.
- Never give a ride to a passenger who is too small to reach and hold the handgrip on the enclosure.
- Always avoid operating the vehicle on any paved surfaces, including sidewalks, driveways, parking lots, and streets.
- Never operate this vehicle on any public street, road, or highway, even a dirt or gravel one.
- Never operate this vehicle without wearing an approved motorcycle helmet that fits properly. You should also wear eye protection (goggles or a face shield), gloves, over-the-ankle boots, long-sleeved shirt or jacket, and long pants.
- Never consume alcohol or drugs before or while operating this vehicle.
- Never operate at speeds too fast for your skills or the conditions. Always go at a speed that is proper for the terrain, visibility, operating conditions, and your experience.
- Never attempt jumps or other stunts.

- Always inspect your vehicle each time you use it to be sure it is in safe operating condition. Always follow the inspection and maintenance procedures and schedules described in this manual.
- Always keep both hands, arms, feet, and legs inside the vehicle at all times during operation. Keep your feet on the floorboard. Never hold onto the enclosure except when using the handgrip inside the enclosure. Otherwise, your hand could be injured if it is caught between the enclosure and an obstacle outside the vehicle.
- Always keep both hands on the steering wheel when driving.
- Never wrap your thumbs and fingers around the steering wheel. This is particularly important when driving in rough terrain. The front wheels will move right and left as they respond to the terrain, and this movement will be felt in the steering wheel. A sudden jolt could wrench the steering wheel around, and your thumbs or fingers could be injured if they are in the way of the steering wheel spokes.
- Always go slowly and be extra careful when operating on unfamiliar terrain. Always be alert to changing terrain conditions when driving the vehicle.
- Never operate on excessively rough, slippery, or loose terrain until you have learned and practiced the skills necessary to control the vehicle on such terrain. Always be especially cautious on these kinds of terrain.
- Never turn at excessive speed. Practice turning at slow speeds before attempting to turn at faster speeds. Do not attempt turns on steep inclines.
- Never operate the vehicle on hills that are too steep for it or for your abilities. Go straight up and down hills where possible. Maximum slope angle: 15°

- Never operate on hills that are slippery or ones where you will not be able to see far enough ahead of you. Never go over the top of a hill at speed if you cannot see what is on the other side.
- Always follow proper procedures for going uphill. If you lose momentum and cannot continue up a hill, back down the hill with the engine in reverse gear. Use engine braking to help you go slowly. If necessary, use the brakes gradually to help you go slowly.
- Always check terrain carefully before going down hills. Go as slowly as possible. Never go down a hill at high speed.
- Always check for obstacles before operating in a new area.
- Never operate the vehicle in fast flowing water or water deeper than the floorboards on this model. Remember that wet brakes may have reduced stopping ability. Test your brakes after leaving water. If necessary, apply them several times to let friction dry out the linings.
- Always be sure there are no obstacles or people behind you when you operate in reverse. When it is safe to proceed in reverse, go slowly. Do not brake abruptly when carrying loads in the cargo bed.
- Always use the size and type of tires specified in this manual.
- Always maintain proper tire pressure as described in this manual.
- Never exceed the stated load capacity. Cargo should be as far forward in the bed as possible, and distributed evenly from side to side. Be sure cargo is secured so that it cannot move around during operation. Reduce speed and follow instructions in this manual for carrying cargo or pulling a trailer. Allow greater distance for braking.

⚠ WARNING

POTENTIAL HAZARD

Improper handling of gasoline.

WHAT CAN HAPPEN

Gasoline can catch fire and you could be burned.

HOW TO AVOID THE HAZARD

Always turn off the engine when refueling. Do not refuel right after the engine has been running and is still very hot. Do not spill gasoline on the engine or exhaust pipe/muffler when refueling. Never refuel while smoking, or while in the vicinity of sparks, open flames, or other sources of ignition such as the pilot lights of water heaters and clothes dryers.

When transporting the vehicle in another vehicle, be sure it is kept in an upright position. Otherwise, fuel may leak out of the carburetor or fuel tank.

WHAT CAN HAPPEN

Gasoline is poisonous and can cause injuries.

HOW TO AVOID THE HAZARD

If you should swallow some gasoline or inhale a lot of gasoline vapor, or get some gasoline in your eyes, see your doctor immediately. If gasoline spills on your skin, wash with soap and water. If gasoline spills on your clothing, change your clothes.

⚠ WARNING

POTENTIAL HAZARD

Starting or running the engine in a closed area.

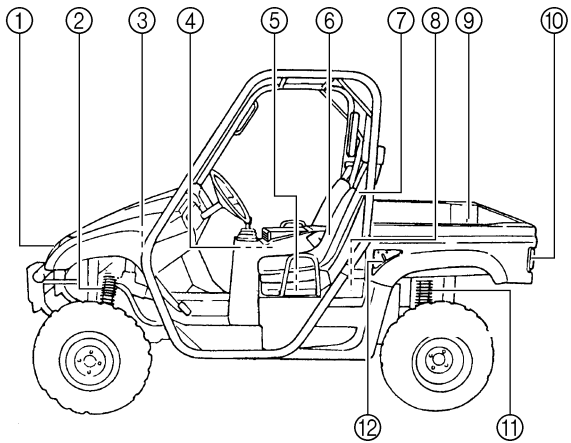
WHAT CAN HAPPEN

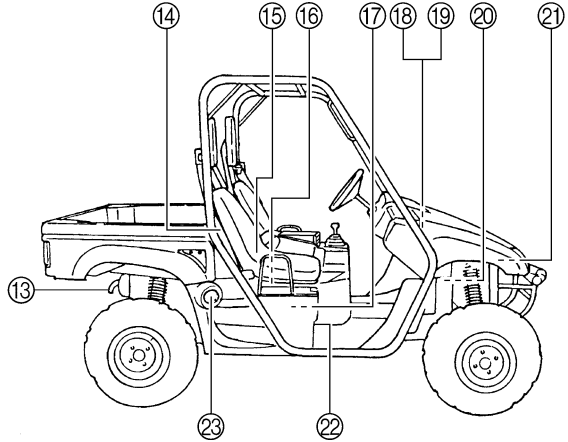
Exhaust fumes are poisonous and may cause loss of consciousness and death within a short time.

HOW TO AVOID THE HAZARD

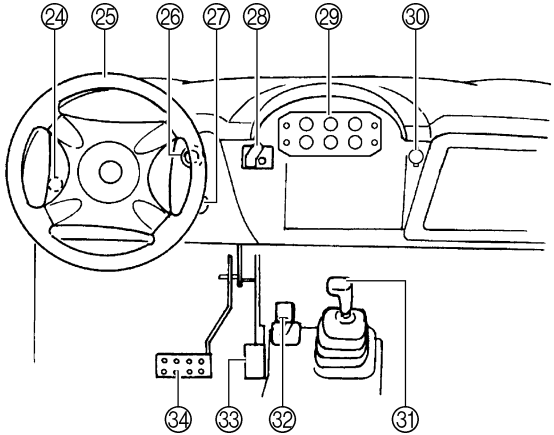
Always operate your vehicle in an area with adequate ventilation.

DESCRIPTION AND VEHICLE IDENTIFICATION





1. Headlights
2. Front shock absorber assembly adjusting ring
3. Brake fluid reservoir
4. Air filter element (Engine and air intake duct)
5. V-belt case
6. Driver seat
7. Driver seat belt
8. Spark plug
9. Cargo bed
10. Tail/brake lights
11. Rear shock absorber assembly adjusting ring
12. Cargo bed release lever
13. Spark arrester
14. Passenger seat belt
15. Passenger seat
16. Oil filter cartridge
17. Engine oil dipstick
18. Battery
19. Fuses
20. Coolant reservoir
21. Radiator cap
22. Fuel level check window
23. Fuel tank cap



24. Light switch
25. Steering wheel
26. Starter (choke)
27. Main switch
28. On-Command four-wheel drive and differential gear lock switches
29. Indicator and warning lights
30. Auxiliary DC jack
31. Drive select lever
32. Parking brake lever
33. Accelerator pedal
34. Brake pedal

NOTE:

The vehicle you have purchased may differ slightly from those shown in the figures of this manual.

Identification number records

Record the key identification number, vehicle identification number and model label information in the spaces provided for assistance when ordering spare parts from a Yamaha dealer or for reference in case the vehicle is stolen.

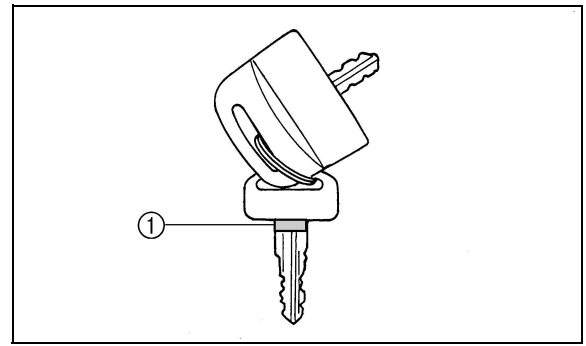
1. KEY IDENTIFICATION NUMBER:

2. VEHICLE IDENTIFICATION NUMBER:

3. MODEL LABEL INFORMATION:

Key identification number

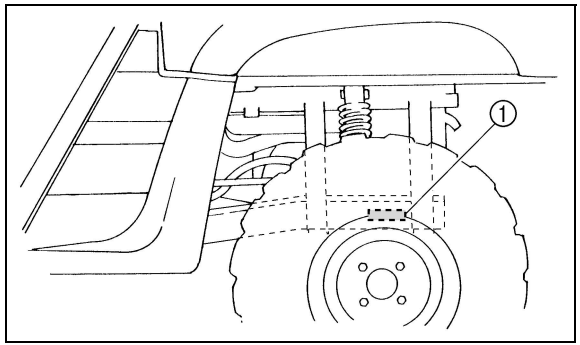
The key identification number is stamped on the key as shown in the following illustration. This number can be used for ordering a new key.



1. Key identification number

Vehicle identification number

The vehicle identification number is stamped into the frame.



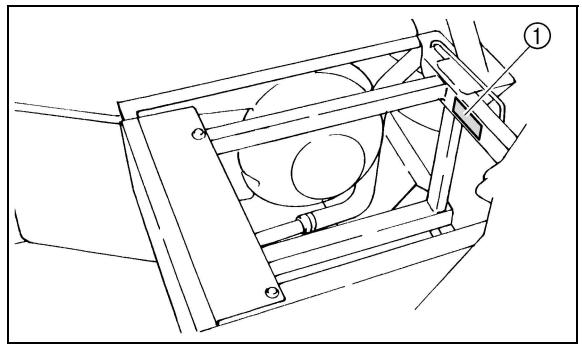
1. Vehicle identification number

NOTE:

The vehicle identification number is used to identify your vehicle.

Model label

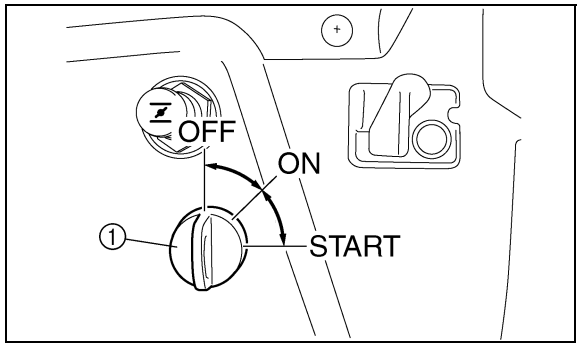
The model label is affixed to the location in the illustration. Record the information on this label in the space provided. This information will be needed to order spare parts from your Yamaha dealer.



1. Model label

CONTROL FUNCTIONS

Main switch



1. Main switch

Functions of the respective switch positions are as follows:

ON:

All electrical circuits are supplied with power, and the headlights and taillights come on when the light switch is on.

OFF:

All electrical circuits are switched off. The key can be removed in this position.

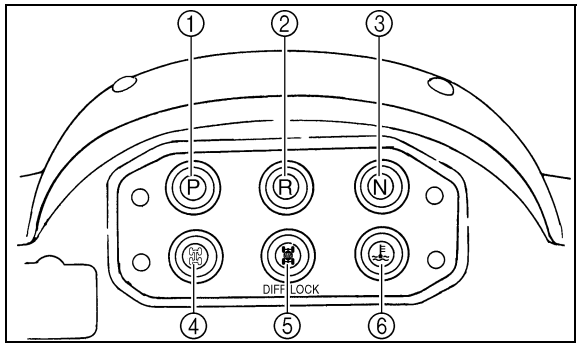
START:

The electric starter is engaged by turning and holding the key in this position. Release the key when the engine starts.

CAUTION:

- **Do not operate the electric starter continuously for more than 5 seconds, or starter damage could occur. Wait at least 5 seconds between each operation of the electric starter to let it cool.**
- **Do not turn the key to the "START" position with the engine running, or damage to the electric starter can result.**
- **See starting instructions prior to starting the engine. (See pages 6-1–6-3 for details.)**

Indicator and warning lights



1. Parking brake indicator light “P”
2. Reverse indicator light “R”
3. Neutral indicator light “N”
4. Four-wheel-drive indicator light “ ”
5. Differential gear lock indicator light “ ”
6. Coolant temperature warning light “ ”

Parking brake indicator light “P”

This indicator light comes on when the parking brake is applied.

Reverse indicator light “R”

This indicator light comes on when the drive select lever is in the “R” reverse position.

NOTE:

If the indicator light flashes while riding, have a Yamaha dealer check the speed sensor circuit.

Neutral indicator light “N”

This indicator light comes on when the drive select lever is in the “N” position.

Four-wheel-drive indicator light “ ”
This indicator light comes on when the “2WD/4WD” switch is in the “4WD” position.

NOTE:
Due to the synchronizing mechanism in the differential gear case, the light may not come on until the vehicle starts moving.

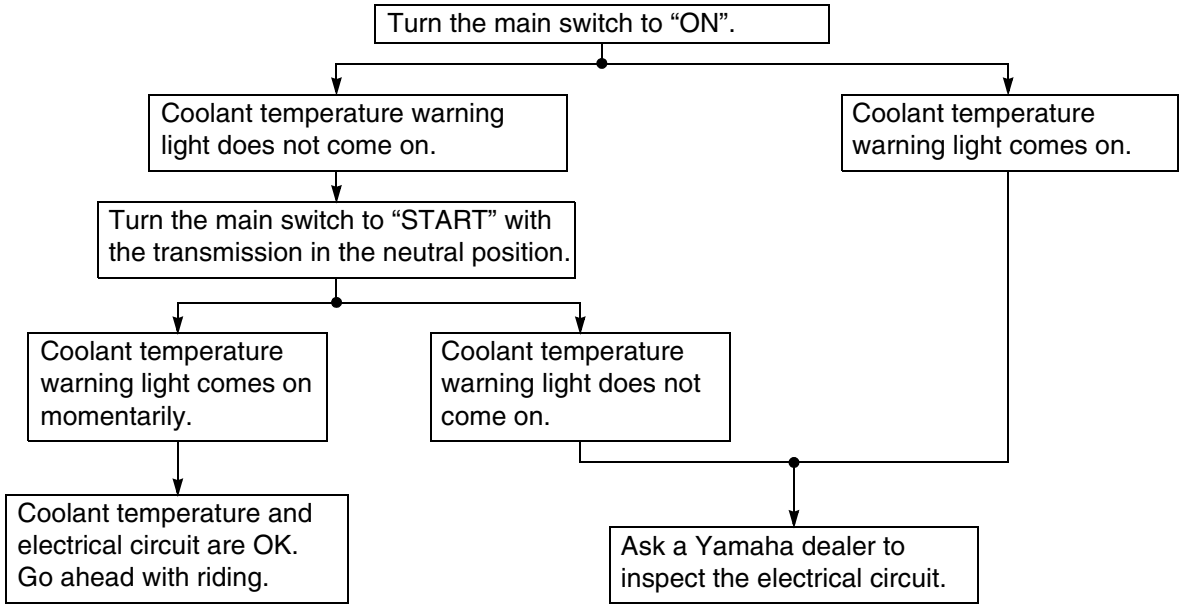
Differential gear lock indicator light “ ”
This indicator light comes on when the differential gear lock switch is set to the “LOCK-4WD” position.

Coolant temperature warning light “ ”
When the coolant temperature reaches a specified level, this light comes on to warn that the coolant temperature is too hot. If the light comes on during operation, stop the engine as soon as it is safe to do so and allow the engine to cool down for about 10 minutes.

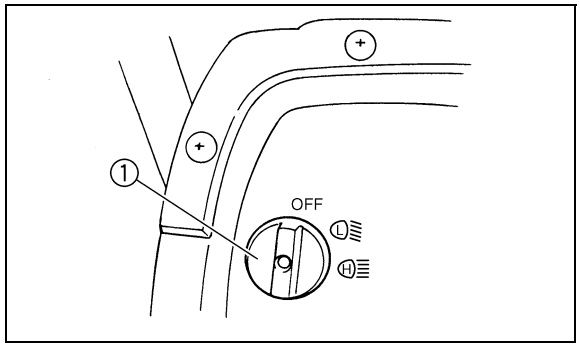
CAUTION:

- **The engine may overheat if the vehicle is overloaded. If this happens, reduce the load to specification.**
- **After restarting, make sure that the light is out. Continuous use while the light is on may cause damage to the engine.**

Coolant temperature warning light checking method


Turn the main switch to “ON”.
Coolant temperature warning light does not come on.
Coolant temperature warning light comes on.
Turn the main switch to “START” with the transmission in the neutral position.
Coolant temperature warning light comes on momentarily.
Coolant temperature warning light does not come on.
Coolant temperature and electrical circuit are OK. Go ahead with riding.
Ask a Yamaha dealer to inspect the electrical circuit.

Switches



1. Light switch "OFF/Ⓛ≣/Ⓗ≣"

Light switch "OFF/Ⓛ≣/Ⓗ≣"

Set the switch to "Ⓛ≣" to turn on the low beam and the taillights.

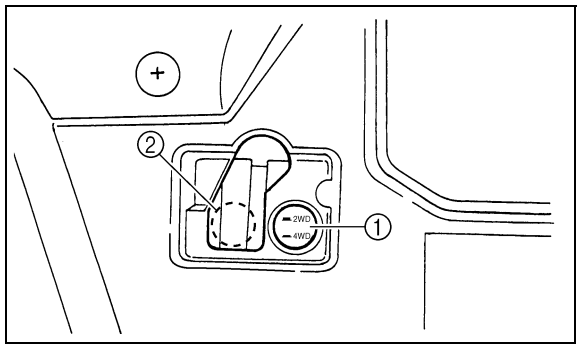
Set the switch to "Ⓗ≣" to turn on the high beam and the taillights.

Set the switch to "OFF" to turn off all the lights.

CAUTION:

Do not use the headlights with the engine turned off for an extended period of time. The battery may discharge to the point that the starter motor will not operate properly. If this should happen, remove the battery and recharge it.

On-Command four-wheel drive and differential gear lock switches



1. On-Command four-wheel drive switch “2WD”/“4WD”
2. Differential gear lock switch “LOCK”/“4WD”

This vehicle is equipped with an On-Command four-wheel drive switch “2WD”/“4WD” and a differential gear lock switch “LOCK”/“4WD”. Select the appropriate drive according to terrain and the conditions.

- Two-wheel drive (“2WD”): Power is supplied to the rear wheels only.
- Four-wheel drive (“4WD”): Power is supplied to the rear and front wheels.
- Four-wheel drive with the differential gear locked (“4WD-LOCK”): Power is supplied to the rear and front wheels when the differential gear is locked (“DIFF.LOCK”). Unlike the 4WD mode, all wheels turn at the same speed regardless of traction.

⚠ WARNING

POTENTIAL HAZARD

Changing from 2WD to 4WD or from 4WD to 4WD-LOCK (“DIFF.LOCK”), or vice-versa while the vehicle is moving.

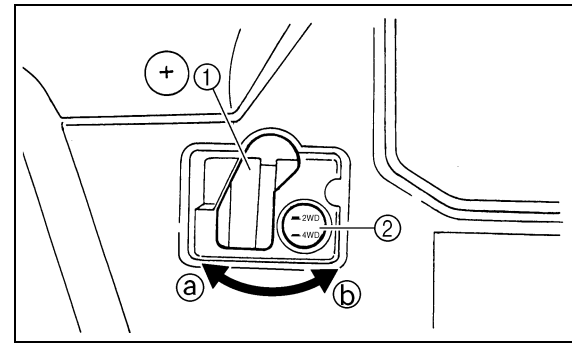
WHAT CAN HAPPEN

The vehicle handles differently in 2WD than in 4WD and in 4WD-LOCK in some circumstances. Changing from 2WD to 4WD or from 4WD to 4WD-LOCK, or vice-versa while moving may cause the vehicle to unexpectedly handle differently. This could distract the operator and increase the risk of losing control and an accident.

HOW TO AVOID THE HAZARD

Always stop the vehicle before changing from 2WD to 4WD or from 4WD to 4WD-LOCK, or vice-versa.

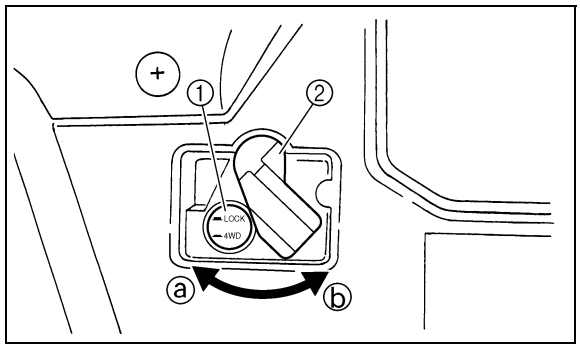
On-Command four-wheel drive switch “2WD”/“4WD”



1. Lever
2. On-Command four-wheel drive switch “2WD”/“4WD”

To change from 2WD to 4WD, stop the vehicle, and then set the switch to “4WD”. When the vehicle is in 4WD, the 4WD indicator light “” will come on. To change from 4WD to 2WD, stop the vehicle, be sure the lever is set to position ⓐ, and then set the switch to “2WD”.

Differential gear lock switch "LOCK"/ "4WD"



1. Differential gear lock switch "LOCK"/"4WD"
2. Lever

To lock the differential gear in 4WD, stop the vehicle, make sure the On-Command four-wheel-drive switch is set to "4WD", move the lever to position ⓑ, and then set the switch to "LOCK". When the differential gear is locked, the differential gear lock indicator light " " will come on. To release the differential gear lock, stop the vehicle and set the switch to "4WD".

⚠ WARNING

POTENTIAL HAZARD

Riding too fast while the vehicle is in 4WD-LOCK.

WHAT CAN HAPPEN

All wheels turn at the same speed when the differential is locked, so it takes more effort to turn the vehicle. The amount of effort required is greater the faster you go. You may lose control and have an accident if you cannot make a sharp enough turn for the speed you are traveling.

HOW TO AVOID THE HAZARD

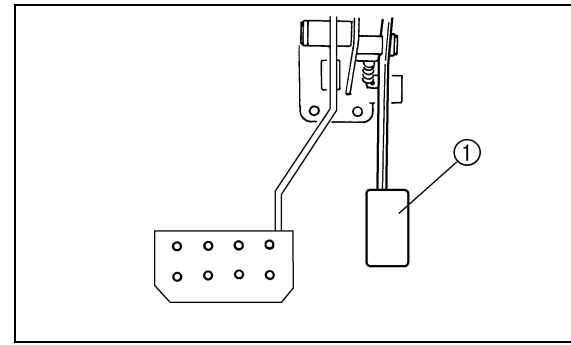
Always ride at a slow speed when the vehicle is in 4WD-LOCK, and allow extra time and distance for maneuvers.

NOTE:

- If the differential gear lock is not engaging properly, turn the steering wheel back and forth to help it engage.
- Riding before the differential gear lock is properly engaged will cause the engine speed to be limited until engagement is complete.

Accelerator pedal

Press the accelerator pedal down to increase engine speed. Spring pressure returns the pedal to the rest position when released. Always check that the accelerator pedal returns normally before starting the engine.



1. Accelerator pedal

Before starting the engine, check the accelerator pedal to be sure it is operating smoothly. Make sure the accelerator pedal fully returns to the idle position as soon as it is released.

⚠ WARNING

POTENTIAL HAZARD

Malfunction of the accelerator pedal.

WHAT CAN HAPPEN

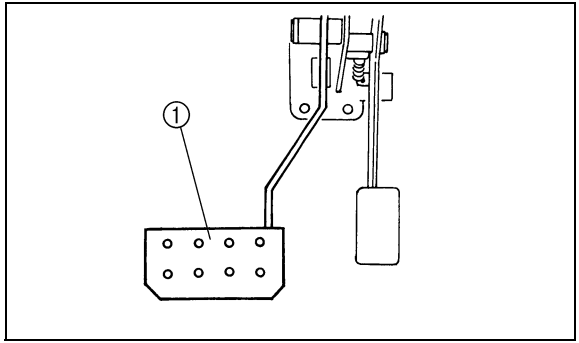
The accelerator pedal could be hard to operate, making it difficult to speed up or slow down when you need to. This could cause an accident.

HOW TO AVOID THE HAZARD

Check the operation of the accelerator pedal before you start the engine. If it does not work smoothly, check for the cause. Correct the problem before operating the vehicle. Consult a Yamaha dealer if you can't find or solve the problem yourself.

Brake pedal

Press the brake pedal to slow or stop the vehicle.



1. Brake pedal

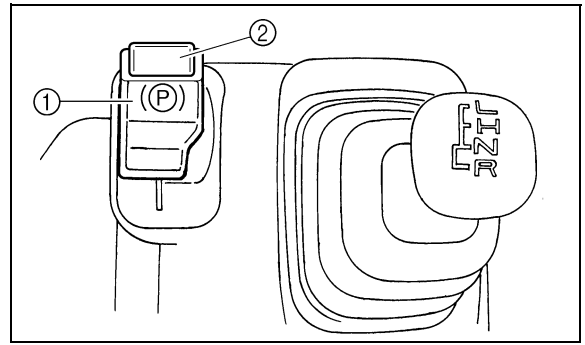
Parking brake lever

The parking brake lever is located at the right side of the driver's seat. It will help hold the vehicle from moving while parked.

To set the parking brake, pull the lever up completely.

To release the parking brake, pull up on the lever, press the release button, and then push the lever all the way down. Spring pressure helps return the lever to the released position.

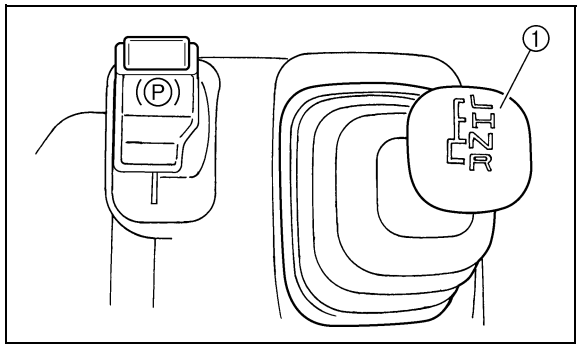
Be sure to fully release the parking brake before starting out. Failure to do so may result in poor performance and premature wearing of the rear brake and V-belt.



1. Parking brake lever
2. Release button

Drive select lever

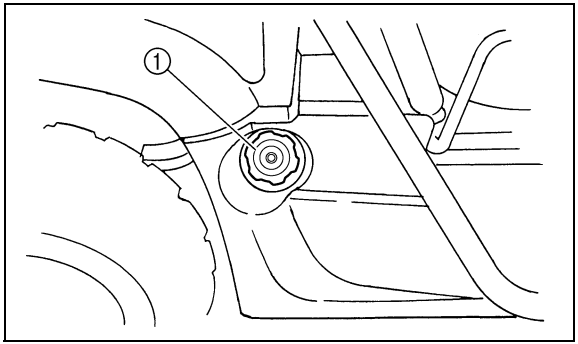
The drive select lever is used to shift your vehicle into the low, high, neutral and reverse positions. (Refer to pages 6-5–6-7 for the drive select lever operation.)



1. Drive select lever

Fuel tank cap

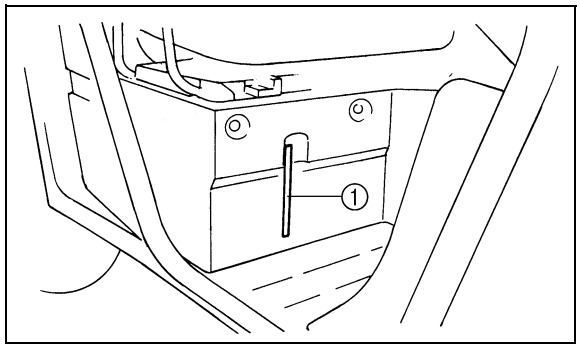
Remove the fuel tank cap by turning it counterclockwise.



1. Fuel tank cap

Fuel level check window

The amount of fuel in the fuel tank can be checked through the fuel level check window. If the fuel level is low, refuel as soon as possible.



1. Fuel level check window

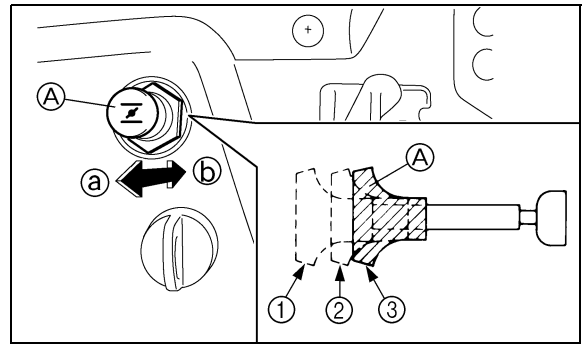
Starter (choke) "⎇"

Starting a cold engine requires a richer air-fuel mixture. A separate starter circuit supplies this mixture.

Move in direction ⓐ to turn on the starter (choke).

Move in direction ⓑ to turn off the starter (choke).

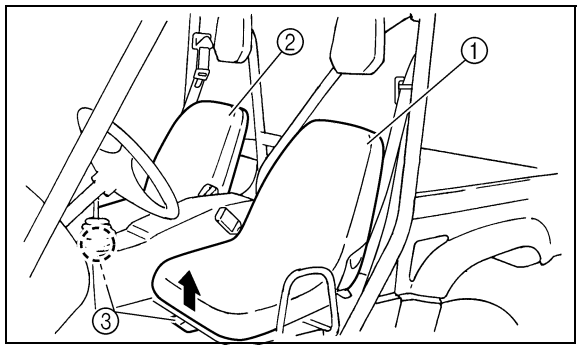
Refer to "Starting a cold engine" for proper operation. (See pages 6-1–6-3.)



A. Starter (choke) "⎇"
1. Fully open
2. Half open
3. Closed

Seats

To remove a seat, pull its seat lock lever upward, lift the front of the seat, and then slide the seat forward and up.



1. Driver seat
2. Passenger seat
3. Seat lock lever (× 2)

To install a seat, insert the projections on the rear of the seat into the seat holders and push down on the seat at the front.

⚠ WARNING

POTENTIAL HAZARD

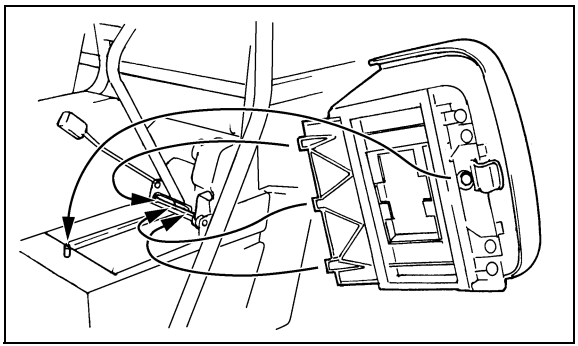
A loose seat.

WHAT CAN HAPPEN

The operator could lose control or the operator or passenger could fall if the seat is loose during operation.

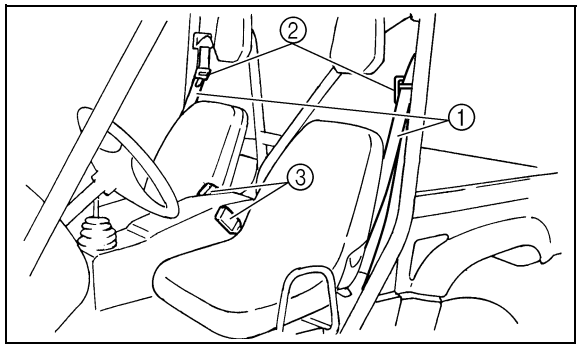
HOW TO AVOID THE HAZARD

Make sure the seat is securely latched.



Seat belts

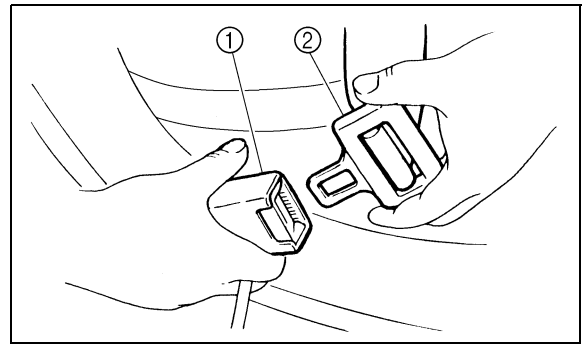
This vehicle is equipped with three-point seat belts for both the operator and passenger. Always wear the seat belt while riding in the vehicle.



1. Seat belt (× 2)
2. Latch plate (× 2)
3. Buckle (× 2)

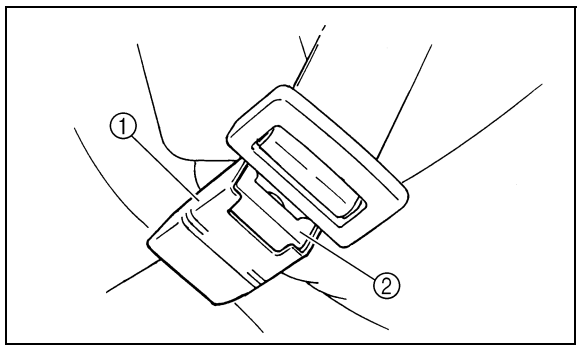
To wear the seat belt properly, do the following:

1. Hold the latch plate as you pull the belt across your lap and chest. Make sure the belt is not twisted and is not caught on any portion of the vehicle, your clothing, or any equipment you are carrying.
2. Push the latch plate into the buckle until it clicks. Pull up on the latch plate to make sure it is secure.



1. Buckle
2. Latch plate

3. Put the lap portion of the belt low on your hips. Push down on the buckle end of the belt as you pull up on the shoulder part so the belt is snug across your hips.
4. Position the shoulder belt over your shoulder and across your chest. The shoulder belt should fit against your chest. If it is loose, pull the belt out all the way and then let it retract.
5. To release the buckle, firmly press the release button.



1. Buckle
2. Release button

⚠ WARNING

POTENTIAL HAZARD

Not wearing the seat belt.

Wearing the seat belt improperly.

WHAT CAN HAPPEN

There is increased risk of being killed or seriously injured in an accident.

HOW TO AVOID THE HAZARD

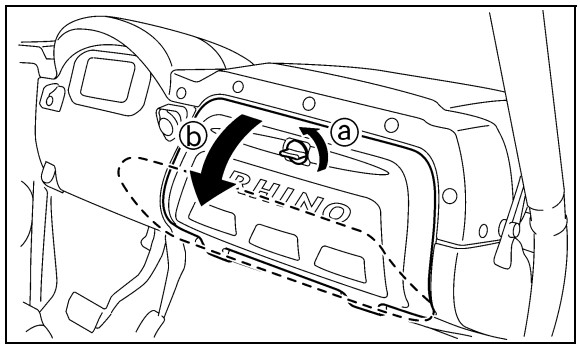
Always wear your seat belt when riding in the vehicle.

Be sure the seat belt is close-fitting across your hips and chest and is latched securely.

Glove compartment

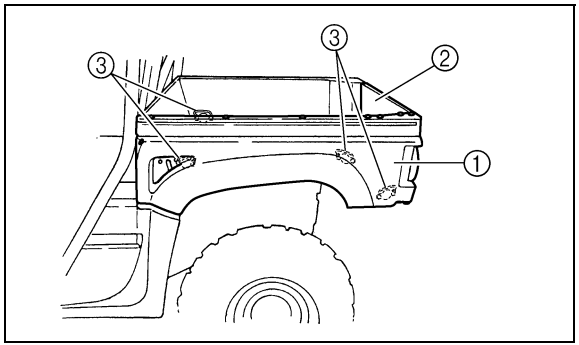
CAUTION:

To protect from damage, do not put metal products, like tools or sharply edged products directly in the glove compartment. If they must be stored, wrap them in appropriate cushion material.



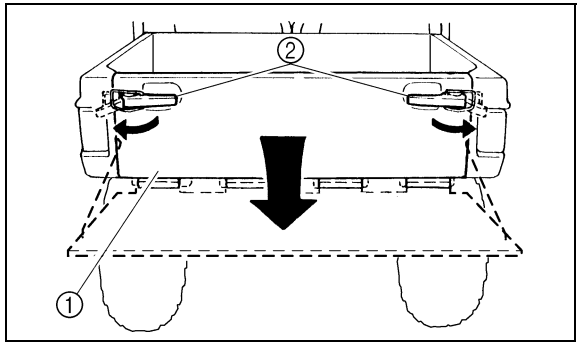
a. Unlock. b. Open.

Cargo bed



1. Cargo bed
2. Tailgate
3. Cargo hook (× 4)

Opening and closing the tailgate



1. Tailgate 2. Latch (× 2)

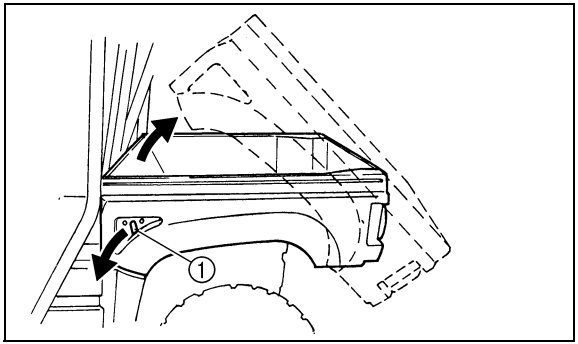
To open

Unhook the latches, and then lower the tailgate.

To close

Place the tailgate in the original position, and then hook the latches.

Lifting and lowering the cargo bed



1. Cargo bed release lever

To lift

Push the cargo bed release lever down, and then slowly lift up the cargo bed until it stops.

To lower

Lower the cargo bed slowly to its original position and be sure the it is locked into place.

Maximum load limit: 181 kg (400 lb)

⚠ WARNING

POTENTIAL HAZARD

Pinch points.

WHAT CAN HAPPEN

You or someone else could be pinched between the cargo bed and the frame when the bed is being lowered.

HOW TO AVOID THE HAZARD

Before closing the bed, be sure others are standing away from the vehicle. Keep hands and fingers away from the pinch points between the bed and the frame.

⚠ WARNING

POTENTIAL HAZARD

Overloading the cargo bed

WHAT CAN HAPPEN

Could cause changes in vehicle handling which could lead to an accident.

HOW TO AVOID THE HAZARD

Never exceed the stated maximum load limit for this cargo bed.

Cargo should be properly distributed and securely attached.

Reduce speed when carrying cargo. Allow greater distance for braking.

⚠ WARNING

POTENTIAL HAZARD

Carrying a passenger in the cargo bed

WHAT CAN HAPPEN

The passenger could fall, be thrown out, or be struck by objects in the cargo bed.

HOW TO AVOID THE HAZARD

Never carry a passenger in the cargo bed. This cargo bed is designed to carry cargo only.

Front and rear shock absorber adjustment

The spring preload can be adjusted to suit the operating conditions.

You can reduce preload for a softer ride, or increase preload if frequent bottoming occurs.

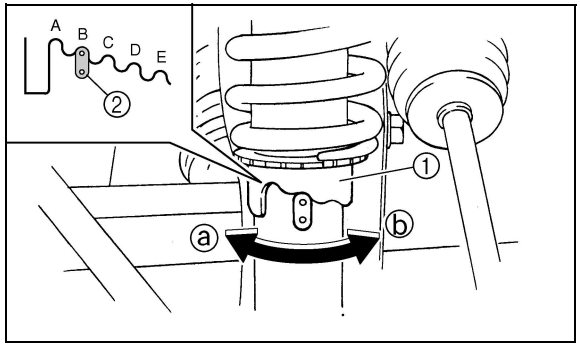
CAUTION:

Frequent or severe bottoming can cause increased wear or damage to the vehicle.

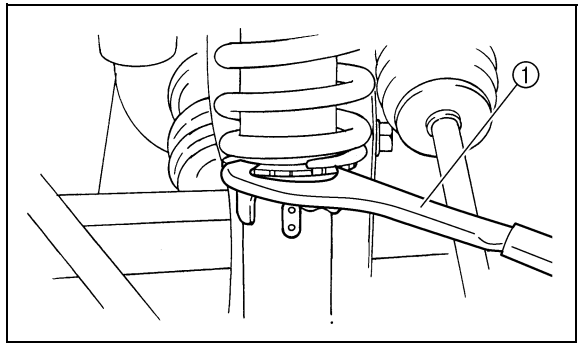
Adjust the spring preload as follows.

To increase the spring preload, turn the adjusting ring in direction ⓐ.

To decrease the spring preload, turn the adjusting ring in direction ⓑ.



1. Spring preload adjusting ring
2. Position indicator



1. Special wrench

NOTE:

A special wrench can be obtained at a Yamaha dealer to make this adjustment.

Standard position: B
- A- Minimum (soft)
- E- Maximum (hard)

⚠ WARNING

POTENTIAL HAZARD

Improper shock absorber adjustment.

WHAT CAN HAPPEN

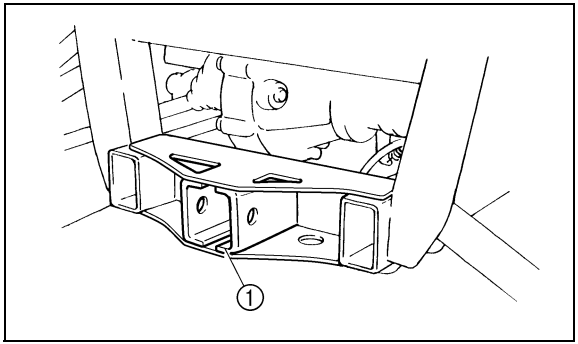
Uneven adjustment can cause poor handling and loss of stability, which could lead to an accident.

HOW TO AVOID THE HAZARD

Always adjust the shock absorbers on the left and right side to the same setting.

Trailer hitch bracket

This vehicle is equipped with a 5 cm (2 in) receiver bracket for a standard trailer hitch. Trailer towing equipment can be obtained at a Yamaha dealer. (See pages 6-12–6-13 for precaution information.)



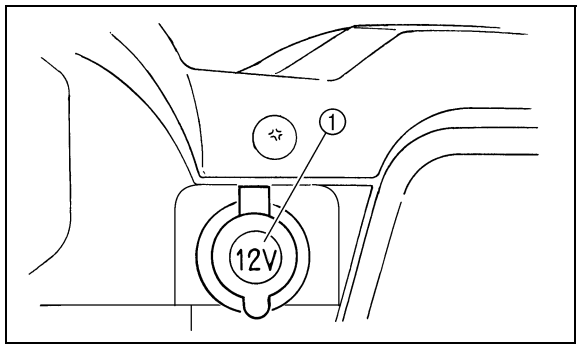
1. Trailer hitch bracket

Auxiliary DC jack

The auxiliary DC jack is located at the right side of the front panel.

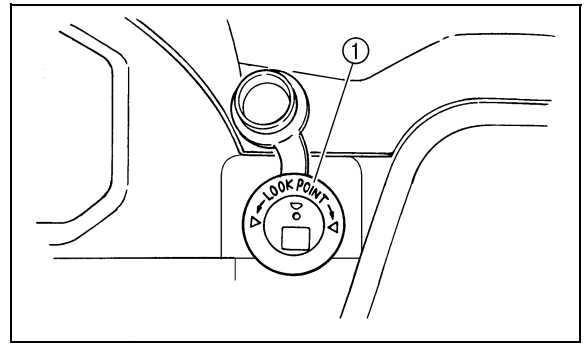
The auxiliary DC jack can be used for suitable work lights, radios, etc.

The auxiliary DC jack should only be used when the engine is running.



1. Auxiliary DC jack cap

1. Set the light switch to “OFF”.
2. Start the engine. (See pages 6-1–6-3.)
3. Open the auxiliary DC jack cap, and then insert the accessory power plug into the jack.



1. Auxiliary DC jack

Maximum rated capacity for the auxiliary DC jack:
DC 12 V, 120 W (10 A)

4. When the auxiliary DC jack is not being used, cover it with the cap.

CAUTION:

- **Do not use accessories requiring more than the above maximum capacity. This may overload the circuit and cause the fuse to blow.**
- **If accessories are used without the engine running or with the headlights turned on, the battery will lose its charge and engine starting may become difficult.**
- **Do not use an automotive cigarette lighter or other accessories with a plug that gets hot because the jack can be damaged.**

PRE-OPERATION CHECKS

Before using this vehicle, check the following points:

ITEM	ROUTINE	PAGE
Brakes	• Check operation, free play, fluid level and fluid leakage. • Fill with DOT 4 brake fluid if necessary.	5-2–5-3, 8-32–8-35
Parking brake	• Check for proper operation, condition and free play.	8-36–8-37
Fuel	• Check fuel level. • Fill with fuel if necessary.	5-4–5-5
Engine oil	• Check oil level. • Fill with oil if necessary.	5-5, 8-9–8-12
Coolant reservoir	• Check coolant level. • Fill with coolant if necessary.	5-6, 8-17–8-18
Final gear oil/ Differential gear oil	• Check for leakage.	5-7, 8-13–8-16
Accelerator pedal	• Check for proper accelerator pedal operation.	5-7
Seat belts	• Check for proper operation and belt wear.	5-7
Steering	• Check for proper operation.	5-8
Fittings and fasteners	• Check all fittings and fasteners.	5-8
Lights and switches	• Check for proper operation.	5-8, 8-46–8-49
Wheels and tires	• Check tire pressure, wear and damage.	5-8–5-11, 8-40–8-41
Axle boots	• Check for damage.	8-19

⚠ WARNING

POTENTIAL HAZARD

Failure to inspect the vehicle before operating. Failure to properly maintain the vehicle.

WHAT CAN HAPPEN

Increases the possibility of an accident or equipment damage.

HOW TO AVOID THE HAZARD

Always inspect your vehicle each time you use it to make sure the vehicle is in safe operating condition. Always follow the inspection and maintenance procedures and schedules described in the Owner's Manual.

Front and rear brakes

Brake pedal

Check for correct brake pedal free play. If the brake pedal free play is incorrect, have a Yamaha dealer adjust it. (See page 8-35.)

Check the operation of the brake pedal. It should move smoothly and there should be a firm feeling when the brakes are applied. If not, have the vehicle inspected by a Yamaha dealer.

Brake fluid level

Check the brake fluid level.

Add fluid if necessary. (See pages 8-33–8-34.)

Recommended brake fluid: DOT 4

Brake fluid leakage

Check to see if any brake fluid is leaking out of the pipe joints or the brake fluid reservoir. Apply the brakes firmly for one minute. If there is any leakage, have the vehicle inspected by a Yamaha dealer.

Brake operation

Test the brakes at slow speed after starting out to make sure they are working properly. If the brakes do not provide proper braking performance, inspect the brake system. (See pages 8-32–8-35.)

⚠ WARNING

POTENTIAL HAZARD

Driving with improperly operating brakes.

WHAT CAN HAPPEN

You could lose braking ability, which could lead to an accident.

HOW TO AVOID THE HAZARD

Always check the brakes at the start of every ride. Do not operate the vehicle if you find any problem with the brakes. If a problem cannot be corrected by the adjustment procedures provided in this manual, have the vehicle inspected by a Yamaha dealer.

Fuel

Make sure there is sufficient gasoline in the tank.

Recommended fuel:
UNLEADED GASOLINE ONLY
Fuel tank capacity:
30.0 L (6.60 Imp gal, 7.93 US gal)

CAUTION:

Use only unleaded gasoline. The use of leaded gasoline will cause severe damage to internal engine parts, such as the valves and piston rings, as well as to the exhaust system.

Your Yamaha engine has been designed to use regular unleaded gasoline with a pump octane number ([R+M]/2) of 86 or higher, or research octane number of 91 or higher. If knocking or pinging occurs, use a different brand of gasoline or premium unleaded fuel. Unleaded fuel will give you longer spark plug life and reduced maintenance cost.

Gasohol

There are two types of gasohol; gasohol containing ethanol and that containing methanol. Gasohol containing ethanol can be used if ethanol content does not exceed 10%. Gasohol containing methanol is not recommended by Yamaha because it may cause fuel system damage or vehicle performance problems.

⚠ WARNING

POTENTIAL HAZARD

Improper care when refueling.

WHAT CAN HAPPEN

Fuel can spill, which can cause a fire and severe injury.

Fuel expands when it heats up. If the fuel tank is overfilled, fuel could spill out due to heat from the engine or the sun.

HOW TO AVOID THE HAZARD

Do not overfill the fuel tank. Be careful not to spill fuel, especially on the engine or exhaust pipe. Wipe up any spilled fuel immediately. Be sure the fuel tank cap is closed securely.

Engine oil

Make sure the engine oil is at the specified level. Add oil as necessary. (See pages 8-9–8-12.)

CAUTION:

- **In order to prevent clutch slippage (since the engine oil also lubricates the clutch), do not mix any chemical additives. Do not use oils with a diesel specification of "CD" or oils of a higher quality than specified. In addition, do not use oils labeled "ENERGY CONSERVING II" or higher.**
- **Make sure that no foreign material enters the crankcase.**

Recommended engine oil type and quantity:
See page 10-2.

Coolant

Check the coolant level in the coolant reservoir when the engine is cold. (The coolant level will vary with engine temperature.) The coolant level is satisfactory if it is between the minimum and maximum level marks on the coolant reservoir. If the coolant level is at or below the minimum level mark, add additional coolant to bring the level up to maximum level mark. If coolant is not available, add distilled water. Change the coolant every two years. (See pages 8-17–8-18 for details.)

CAUTION:

Hard water or salt water is harmful to the engine. You may use soft water if you cannot get distilled water.

Coolant reservoir capacity
(up to the maximum level mark):
0.35 L (0.31 Imp qt, 0.37 US qt)

⚠ WARNING

POTENTIAL HAZARD

Removing the radiator cap when the engine and radiator are still hot.

WHAT CAN HAPPEN

You could be burned by hot fluid and steam blown out under pressure.

HOW TO AVOID THE HAZARD

Wait for the engine to cool before removing the radiator cap. Always use a thick rag over the cap. Allow any remaining pressure to escape before completely removing the cap.

Final gear oil

Make sure the final gear oil is at the specified level. Add oil as necessary. (See pages 8-13–8-14 for details.)

Recommended oil:
SAE 80 API GL-4 Hypoid gear oil

If desired, an SAE 80W90 hypoid gear oil may be used for all conditions.

NOTE:
GL-4 is a quality and additive rating, GL-5 or GL-6 rated hypoid gear oils may also be used.

Differential gear oil

Make sure the differential gear oil is at the specified level. Add oil as necessary. (See pages 8-15–8-16 for details.)

Recommended oil:
SAE 80 API GL-4 Hypoid gear oil

Accelerator pedal

Check to see that the accelerator pedal operates correctly. It must operate smoothly and fully spring back to the idle position when released. Have a Yamaha dealer repair as necessary for proper operation.

Seat belts

Make sure that both seat belts are not frayed or damaged.

The seat belt must move smoothly when pulled out and retract on its own when released. The latch plate should click securely into the buckle and release when the release button is pushed firmly. Wash off any dirt or mud which could affect operation. Have a Yamaha dealer repair as necessary for proper operation.

Steering

Park on level ground. Turn the steering wheel right and left. Check for excessive free play, abnormal noises, or a rough feeling. Have a Yamaha dealer repair as necessary for proper operation.

Fittings and fasteners

Always check the tightness of chassis fittings and fasteners before a ride. Take the vehicle to a Yamaha dealer or refer to the Service Manual for correct tightening torque.

Lights

Check the headlights and tail/brake lights to make sure they are in working condition. Repair as necessary for proper operation.

Switches

Check the operation of all switches. Have a Yamaha dealer repair as necessary for proper operation.

Tires

⚠ WARNING

POTENTIAL HAZARD

Operating this vehicle with improper tires, or with improper or uneven tire pressure.

WHAT CAN HAPPEN

Use of improper tires on this vehicle, or operation of this vehicle with improper or uneven tire pressure, may cause loss of control, increasing your risk of accident.

HOW TO AVOID THE HAZARD

1. **The tires listed below have been approved by Yamaha Motor Manufacturing corporation of America for this model. Other tire combinations are not recommended.**

	Manufacturer	Size	Type
Front	GOODYEAR	25 × 8-12NHS	RAWHIDE RS
Rear	GOODYEAR	25 × 10-12NHS	RAWHIDE RS

2. The tires should be set to the recommended pressure:

- **Recommended tire pressure**
  Front 70 kPa (0.70 kgf/cm^2, 10 psi)
  Rear 98 kPa (0.98 kgf/cm^2, 14 psi)

Check and adjust tire pressures when the tires are cold.

Tire pressures must be equal on both sides.

3. Tire pressure below the minimum specified could cause the tire to dislodge from the rim under severe riding conditions. The following are minimums:

Front 63 kPa (0.63 kgf/cm^2, 9 psi)
Rear 91 kPa (0.91 kgf/cm^2, 13 psi)

4. Use no more than the following pressures when seating the tire beads.

Front 250 kPa (2.5 kgf/cm^2, 36 psi)
Rear 250 kPa (2.5 kgf/cm^2, 36 psi)

Higher pressures may cause the tire to burst. Inflate the tires very slowly and carefully. Fast inflation could cause the tire to burst.

How to measure tire pressure

Use the tire pressure gauge.

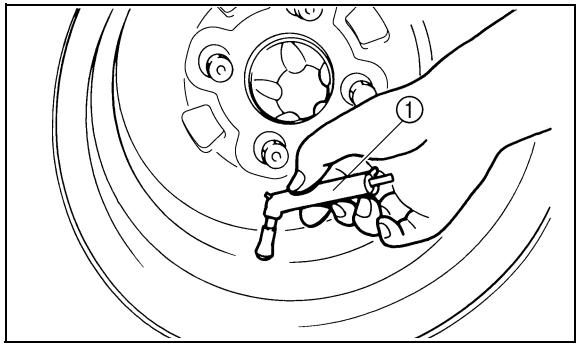
NOTE:

The tire pressure gauge is included as standard equipment. Make two measurements of the tire pressure and use the second reading. Dust or dirt in the gauge could cause the first reading to be incorrect.

Set pressure with tires cold.

Set tire pressures to the following specifications:

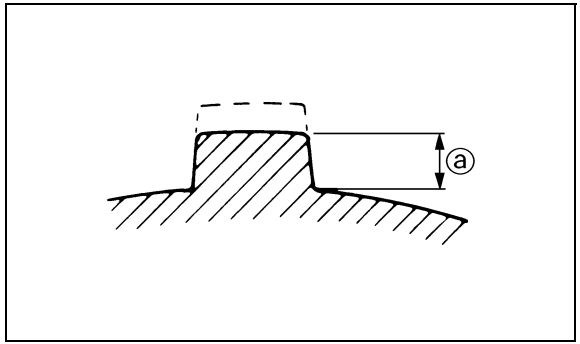
	Recommended pressure	Minimum	Maximum
Front	70 kPa (0.70 kgf/cm^2, 10 psi)	63 kPa (0.63 kgf/cm^2, 9 psi)	77 kPa (0.77 kgf/cm^2, 11 psi)
Rear	98 kPa (0.98 kgf/cm^2, 14 psi)	91 kPa (0.91 kgf/cm^2, 13 psi)	105 kPa (1.05 kgf/cm^2, 15 psi)



1. Tire pressure gauge

Tire wear limit

When the tire groove decreases to 3 mm (0.12 in) due to wear, replace the tire.



a. Tire wear limit

OPERATION

⚠ WARNING

POTENTIAL HAZARD

Operating vehicle without being familiar with all controls.

WHAT CAN HAPPEN

Loss of control, which could cause an accident or injury.

HOW TO AVOID THE HAZARD

Read the Owner's Manual carefully. If there is a control or function you do not understand, ask your Yamaha dealer.

Starting a cold engine

⚠ WARNING

POTENTIAL HAZARD

Freezing control cables in cold weather.

WHAT CAN HAPPEN

You could be unable to control the vehicle, which could lead to an accident or collision.

HOW TO AVOID THE HAZARD

When riding in cold weather, always make sure all control cables work smoothly before you begin riding.

1. Apply the brake.
2. Shift the drive select lever into the neutral position.

NOTE:

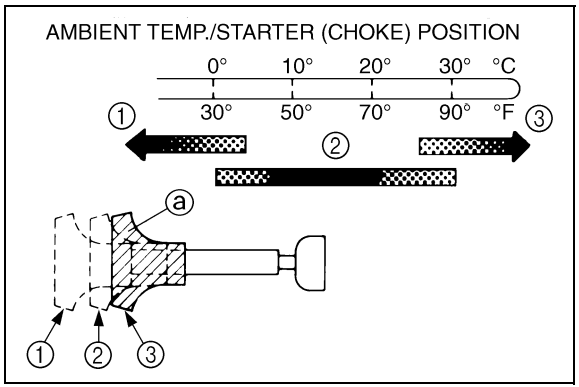
- When the drive select lever is in the neutral position, the neutral indicator light should come on. If the neutral indicator light does not come on, ask a Yamaha dealer to inspect the electric circuit.
- The engine can be started in any gear if the brake is applied. However, it is recommended to shift into neutral before starting the engine.

3. Use the starter (choke) in reference to the figure:

Position ① : Cold engine start-
ambient temperature below 5 °C (40 °F).

Position ② : Cold engine start-
ambient temperature at 0 °C (30 °F)–30 °C (90 °F) and warming up position.

Position ③ : Cold engine start-
ambient temperature above 25 °C (80 °F) and warm engine start position.



a. Starter (choke)
1. Fully open
2. Half open
3. Closed

4. With your foot off the accelerator pedal, start the engine by turning the key to "START".

NOTE:

If the engine fails to start, release the key, and then try starting again. Wait a few seconds before the next attempt. Each cranking should be as short as possible to preserve battery energy. Do not crank the engine more than 5 seconds on each attempt.

5. If the engine is started with the starter (choke) in position ①, the starter (choke) should be returned to position ② to warm up the engine. If the engine is started with the starter (choke) in position ②, keep the starter (choke) in this position to warm up the engine.
6. Continue warming up the engine until it idles smoothly and return the starter (choke) to position ③ before riding.

CAUTION:

See the "Engine break-in" section prior to operating the engine for the first time.

Starting a warm engine

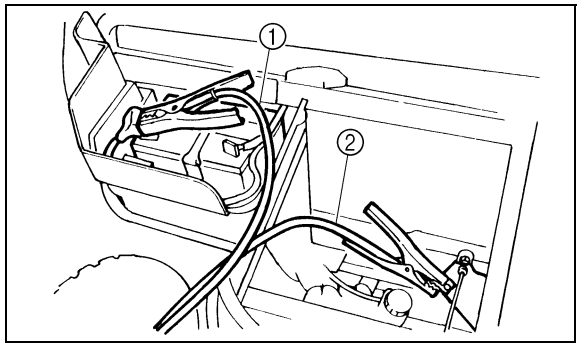
To start a warm engine, refer to the "Starting a cold engine" section. The starter (choke) should not be used. Press the accelerator pedal slightly.

Jump-starting

Jump-starting the vehicle should be avoided. The battery should be removed and charged instead. (See pages 8-42–8-43 for battery removal and installation procedures.) However, if the vehicle must be jump-started, proceed as follows.

1. Turn the key to "OFF".
2. Open the hood. (See pages 8-6–8-7 for hood opening and closing procedures.)
3. Remove the battery compartment cover.

4. Using a charged 12 V battery, connect the positive lead of the jumper cable to the positive terminal of the battery in the vehicle and the other end of the positive lead to the positive terminal of the charged battery.



1. Jumper cable positive lead
2. Jumper cable negative lead

5. Connect the negative lead of the jumper cable to the negative terminal of the charged battery and the other end of the negative lead to an unpainted metal surface of the vehicle.

⚠ WARNING

Do not connect the negative lead of the jumper cable to the negative terminal of the battery in the vehicle.

- **Be especially careful not to:**
  - **touch the positive lead of the jumper cable to the negative lead.**
  - **reverse the polarity of the jumper cables when connecting to the batteries - battery explosion and/or serious damage to the electrical system may occur.**

6. Start the engine. (Refer to “Starting a cold engine” on pages 6-1–6-3.)
7. After the engine starts, disconnect the negative lead of the jumper cable from the vehicle and charged battery, and then disconnect the positive lead of the jumper cable from the charged battery and the battery in the vehicle.
8. Install the battery compartment cover.
9. Close the hood.

Warming up

To get maximum engine life, always warm up the engine before starting off. Never accelerate hard with a cold engine! To see whether or not the engine is warm, check if it responds to the throttle normally with the starter (choke) turned off.

Drive select lever operation and reverse driving

CAUTION:

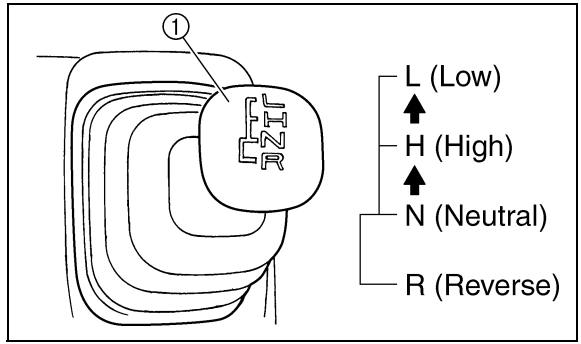
Before shifting, you must stop the vehicle and take your foot off the accelerator pedal. Otherwise, the transmission may be damaged.

Shifting: Neutral to High and High to Low

1. Stop the vehicle. Keep your foot off the accelerator pedal.
2. Apply the brakes, then shift by moving the drive select lever along the shift guide.

NOTE:

Make sure that the drive select lever is completely shifted into position.

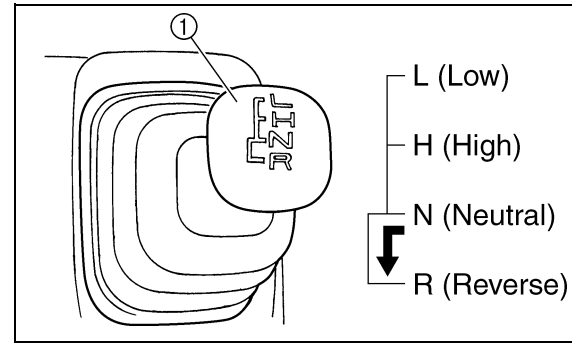


1. Drive select lever

3. Release the brakes and press the accelerator pedal gradually.

Shifting: Neutral to Reverse

1. Stop the vehicle. Keep your foot off the accelerator pedal.
2. Apply the brake pedal.
3. Shift from neutral to reverse or vice versa by moving the drive select lever along the shift guide.



1. Drive select lever

NOTE:

- When in reverse, the reverse indicator light should be on. If the light does not come on, ask a Yamaha dealer to inspect the reverse indicator light electrical circuit.
- Due to the synchronizing mechanism in the engine, the light may not come on until the vehicle starts moving.

4. Check behind for people or obstacles, then release the brake pedal.

5. Press the accelerator pedal gradually and continue to watch to the rear while backing.

⚠ WARNING

POTENTIAL HAZARD

Improperly operating in reverse.

WHAT CAN HAPPEN

You could hit an obstacle or person behind you, resulting in serious injury.

HOW TO AVOID THE HAZARD

When you shift into reverse, make sure there are no obstacles or people behind you. When it is safe to proceed, go slowly.

Engine break-in

There is never a more important period in the life of your vehicle than the period between zero and 20 hours.

For this reason, we ask that you carefully read the following material. Because the engine is brand new, you must not put an excessive load on it for the first several hours of running. During the first 20 hours, the various parts in the engine wear and polish themselves to the correct operating clearances.

During this period, prolonged full throttle operation or any condition which might result in excessive engine heating must be avoided. However, momentary (2–3 seconds maximum) full throttle operation under load does not harm the engine.

Each full throttle acceleration sequence should be followed with a substantial rest period for the engine by cruising at lower r/min so the engine can rid itself of the temporary build up of heat. If any abnormality is noticed during this period, consult a Yamaha dealer.

0–10 hours:
Avoid continuous operation above half throttle. Allow a cooling off period of five to ten minutes after every hour of operation. Vary the speed of the vehicle from time to time. Do not operate it at one set throttle position.

10–20 hours:
Avoid prolonged operation above 3/4 throttle. Rev the vehicle freely but do not use full throttle at any time.

After break-in:
The vehicle can now be operated normally.

Parking

When parking, stop the engine and shift the drive select lever into the neutral position. Apply the parking brake to help prevent the vehicle from rolling.

Parking on a slope

⚠ WARNING

POTENTIAL HAZARD

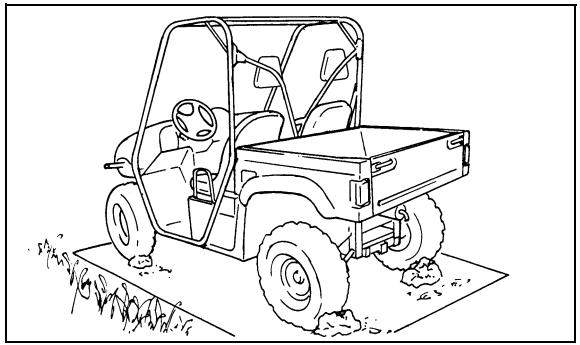
Parking on a hill or other incline.

WHAT CAN HAPPEN

The vehicle could roll out of control, increasing the chance of an accident.

HOW TO AVOID THE HAZARD

Avoid parking on hills or other inclines. If you must park on an incline, apply the parking brake, and block the front and rear wheels with rocks or other objects. Do not park the vehicle at all on hills that are so steep you could not walk up them easily.



1. Bring the vehicle to a stop by applying the brakes.
2. Stop the engine.
3. With the brakes applied, set the parking brake.

NOTE:

Like many other vehicles, the parking brake acts on the rear wheels. For the parking brake to have the effect of braking all four wheels, shift to 4WD before stopping the engine.

Accessories and loading

Accessories

Accessories can affect the handling and control of your vehicle. Keep the following in mind when considering an accessory or operating a vehicle which has accessories.

- Choose only accessories designed for your vehicle. Your Yamaha dealer has a variety of genuine Yamaha accessories. Other accessories may also be available on the market. However, it is not possible for Yamaha to test all non-Yamaha accessories, nor have any control over the quality or suitability of them. Choose a genuine Yamaha accessory, or one that is equivalent in design and quality.
- Accessories should be rigidly and securely mounted. An accessory which can shift position or come off while you are operating could affect your ability to control the vehicle.
- Do not mount an accessory where it could interfere with your ability to control the vehicle. Examples include (but are not limited to) an object that limits your ability to turn the steering wheel or one that limits your view.
- Use extra caution when driving a vehicle with accessories. The vehicle may handle differently than it does without accessories.

Loading

Cargo or a trailer can change the stability and handling of a vehicle.

You must use common sense and good judgment when carrying cargo or towing a trailer. Keep the following points in mind:

- Never exceed the weight limits shown. An overloaded vehicle can be unstable.

MAXIMUM LOADING LIMIT

- Vehicle loading limit (total weight of cargo, operator, passenger and accessories, and tongue weight): 398 kg (878 lb)
- Cargo bed: 181 kg (400 lb)
- Trailer hitch:
  Pulling load (total weight of trailer and cargo): 550 kgf (1,212 lbf)
  Tongue weight (vertical weight on trailer hitch point): 50 kgf (110 lbf)

- Choose a trailer hitch drawbar designed for use with a 5 cm (2 in) receiver. (See page 4-23 for more information.)
- Do not exceed the maximum tongue weight. You can measure tongue weight with a bathroom scale. Put the tongue of the loaded trailer on the scale with the tongue at hitch height. Adjust the load in the trailer, if necessary, to reduce the weight on hitch. If you are carrying cargo and towing a trailer, include the tongue weight in the maximum vehicle load limit.
- Load cargo in the cargo bed as close to the center of the vehicle as possible and tie it down using the cargo hooks equipped on the cargo bed.
- Tie down cargo securely in the trailer. Make sure cargo in the trailer cannot move around. A shifting load can cause an accident.

- Make sure the load does not interfere with controls or your ability to see where you are going.
- Drive more slowly than you would without a load. The more weight you carry, the slower you should go. Although conditions vary, it is good practice not to exceed low range whenever you are carrying heavier loads or when towing a trailer.
- Allow more braking distance. A heavier vehicle takes longer to stop.
- Avoid making sharp turns unless at very slow speeds.
- Avoid hills and rough terrain. Choose terrain carefully. Added weight affects the stability and handling of the vehicle.

⚠ WARNING

POTENTIAL HAZARD

Overloading this vehicle or carrying or towing cargo improperly.

WHAT CAN HAPPEN

Could cause changes in vehicle handling which could lead to an accident.

HOW TO AVOID THE HAZARD

Never exceed the stated load capacity for this vehicle.

Cargo should be properly distributed and securely attached.

Reduce speed when carrying cargo or pulling a trailer. Allow greater distance for braking.

DRIVING YOUR VEHICLE

GETTING TO KNOW YOUR VEHICLE

This off-highway utility vehicle will handle and maneuver differently from an ordinary passenger car or other vehicle.

Before you begin to use your vehicle, be sure you have read this Owner's Manual completely and understand the operation of the controls. Pay particular attention to the safety information on pages 2-1–2-5. Please also read all caution and warning labels on your vehicle.

This vehicle is designed for the operator and one passenger. The driver and passenger must always wear a seat belt. Never carry passengers in the cargo bed.

⚠ WARNING

POTENTIAL HAZARD

Not wearing the seat belt.

Wearing the seat belt improperly.

WHAT CAN HAPPEN

There is increased risk of being killed or seriously injured in an accident.

HOW TO AVOID THE HAZARD

Always wear your seat belt when riding in the vehicle.

Be sure the seat belt is close-fitting across your hips and chest and is latched securely.

⚠ WARNING

POTENTIAL HAZARD

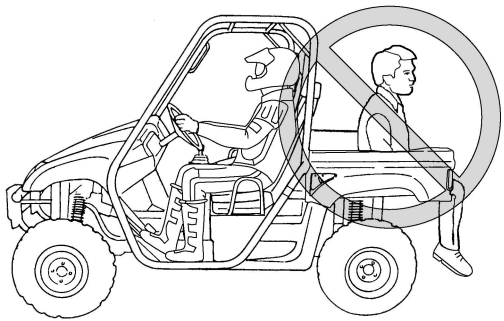
Carrying a passenger in the cargo bed.

WHAT CAN HAPPEN

The passenger could fall or be struck by objects in the cargo bed.

HOW TO AVOID THE HAZARD

Never carry a passenger in the cargo bed. The cargo bed is designed to carry cargo only.



The total weight of operator, passenger, accessories, cargo, trailer tongue weight, and the vehicle itself must not exceed 907 kg (2,000 lb). (See “Loading” on page 6-12.) Carrying a passenger and cargo can affect vehicle handling.

⚠ WARNING

POTENTIAL HAZARD

Overloading this vehicle or carrying or towing cargo improperly.

WHAT CAN HAPPEN

Could cause changes in vehicle handling which could lead to an accident.

HOW TO AVOID THE HAZARD

Never exceed the stated load capacity for this vehicle.

Cargo should be properly distributed and securely attached.

Reduce speed when carrying cargo or pulling a trailer. Allow greater distance for braking.

Always follow the instructions in your Owner's Manual for carrying cargo or pulling a trailer.

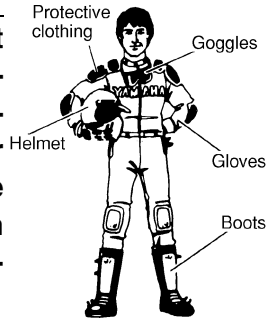
The driver and passenger must always wear a seat belt and an approved motorcycle helmet. Also wear eye protection and protective clothing, including over-the-ankle boots, gloves, a long-sleeved shirt or jacket, and long pants. Keep hands and feet inside the vehicle at all times.

⚠ WARNING

POTENTIAL HAZARD

Operating this vehicle without wearing an approved motorcycle helmet, eye protection, and protective clothing.

WHAT CAN HAPPEN



Operating without an approved motorcycle helmet increases your chances of a severe head injury or death in the event of an accident.

Operating without eye protection can result in an accident and increases your chances of a severe injury in the event of an accident.

HOW TO AVOID THE HAZARD

Always wear an approved motorcycle helmet that fits properly. You should also wear:

- **eye protection (goggles or face shield)**
- **gloves**
- **boots**
- **long-sleeved shirt or jacket**
- **long pants**

LEARNING TO OPERATE YOUR VEHICLE

You should become familiar with the performance characteristics of the vehicle in a large, flat area that is free of obstacles and other vehicles. Practice control of the accelerator pedal, brakes, steering, and drive select lever. Drive first at slow speed and become comfortable at that speed before gradually increasing your speed. Become familiar with the way the vehicle feels in low and high ranges, first in two-wheel drive (2WD) and then in four-wheel drive (4WD) and four-wheel drive with the differential locked (DIFF. LOCK). Also practice driving in reverse. Take the time to learn basic operation before attempting more difficult maneuvers.

Perform the Pre-Operation Checks on pages 5-1–5-11. Set the parking brake, shift to neutral, and follow the instructions on page 6-1 to start the engine. Once it has warmed up and you have turned the choke off, you are ready to begin driving your vehicle. With the engine idling, shift the drive select lever into low or high. Then release the parking brake. Press the accelerator pedal slowly and smoothly. The centrifugal clutch will engage and you will start to accelerate. Avoid higher speeds until you are thoroughly familiar with the operation of your vehicle.

When slowing down or stopping, take your foot off the accelerator pedal and smoothly press the brake pedal. Improper use of the brakes can cause the tires to lose traction, reducing control and increasing the possibility of an accident.

CAUTION:

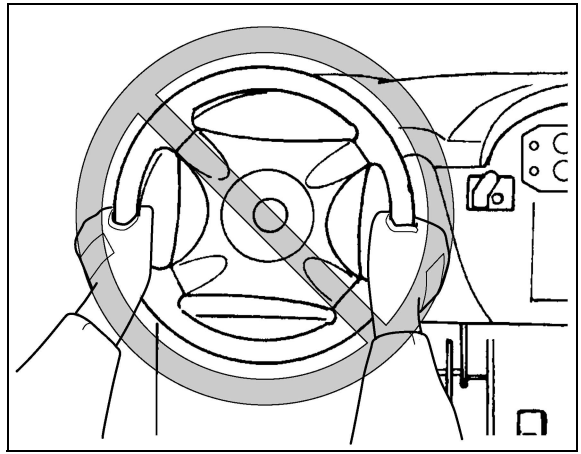
Do not shift from low to high or vice versa without coming to a complete stop and waiting for the engine to return to normal idle speed. Damage to the engine or drive train may occur.

TURNING YOUR VEHICLE

The vehicle is easier to steer in two-wheel drive (2WD) than four-wheel drive (4WD). Steering takes the most effort in 4WD with the differential locked (DIFF. LOCK).

It is possible for the vehicle to roll over or go out of control if you attempt sharp, high-speed turns. You should also be careful making sharp turns on rough terrain. Do not attempt to turn around or make abrupt maneuvers on slopes.

Position your hands on the steering wheel so that your thumbs and fingers do not wrap around the wheel. This is particularly important when driving in rough terrain. The front wheels will move right and left as they respond to the terrain, and this movement will be felt in the steering wheel. A sudden jolt could wrench the steering wheel around, and your thumbs or fingers could be injured if they are in the way of the steering wheel spokes.



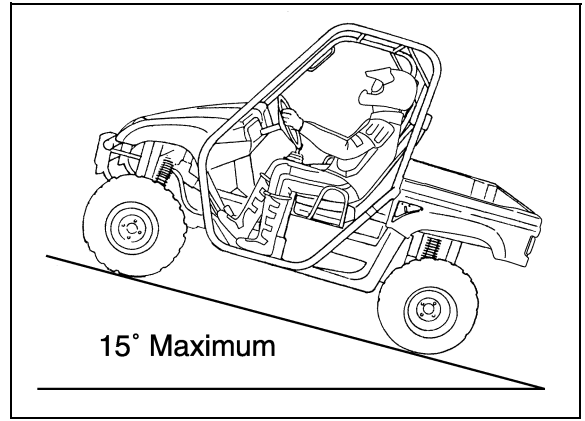
BRAKING

Braking ability is affected by the type of terrain. In most cases, gradually application of the brakes is more effective than abrupt braking, particularly on loose surfaces like gravel. Always allow for greater braking distance on rough, loose, or slippery surfaces.

GOING UPHILL

Do not attempt to climb hills until you have mastered basic maneuvers on flat ground. Use proper driving techniques to avoid overturns on hills and slopes. Drive straight up hills, and avoid crossing the side of a hill, which increases your chance of rollover. Practice first on gentle slopes before attempting steeper hills. Always check the terrain carefully before attempting any hill. Use common sense and remember that some hills are too steep for you to climb.

Maximum slope angle: 15°



Choose carefully which hills you attempt to climb. Avoid hills with slippery surfaces or ones where you will not be able to see far enough ahead of you.

⚠ WARNING

POTENTIAL HAZARD

Operating on excessively steep hills.

WHAT CAN HAPPEN

The vehicle can overturn more easily on extremely steep hills than on level surfaces or small hills.

HOW TO AVOID THE HAZARD

Never operate your vehicle on hills too steep for it or your abilities. Never operate vehicles on hills steeper than 15°.

Do not drive across the face of a hill. Go straight up the hill.

Practice on smaller hills before attempting large hills.

Before climbing the hill, first be sure you are operating in low range 4WD or, if necessary, with 4WD Diff. Lock. To climb a hill, you need traction, momentum, and steady throttle. Travel fast enough to keep your momentum going, but not so fast that you cannot react to changes in the terrain as you climb. Slow down when you reach the crest of the hill if you cannot clearly see what is on the other side – there could be another person, an obstacle, or a sharp drop off.

If you start to lose traction or momentum when climbing, and you decide you will be unable to continue, use the brakes to come to a stop. Do not attempt to turn the vehicle around. With your foot on the brake, look behind you and plan your descent. Shift the drive select lever in reverse so you can use the engine brake if necessary to slow your descent. Release the brake and begin to coast down the hill. Use engine braking as much as possible, gently applying the brakes when necessary.

GOING DOWNHILL

Check the terrain carefully before going down a hill. When possible, choose a path that lets you drive your vehicle straight downhill. Avoid sharp angles that could allow the vehicle to pitch or roll over. Carefully choose your path and drive no faster than you will be able to react to obstacles that may appear.

⚠ WARNING

POTENTIAL HAZARD

Going down a hill improperly.

WHAT CAN HAPPEN

Could cause loss of control or cause the vehicle to overturn.

HOW TO AVOID THE HAZARD

Always check the terrain carefully before you start down any hill. Never go down a hill at high speed. Avoid going down a hill at an angle that would cause the vehicle to lean sharply to one side. Go straight down the hill where possible.

Before starting down hill, make sure the vehicle is in low-range 4WD. On most slopes, this will let you use engine braking to help you go downhill slowly. Go as slowly as possible. If you are starting to go too fast, apply the brakes gently. Avoid sudden application of the brakes, which could cause the vehicle to start sliding.

If you are sliding or skidding, try to steer in the direction the vehicle is sliding to help you regain control.

If you must turn on the hill to avoid an obstacle, do so slowly and carefully. If the vehicle starts to tip, gradually steer in the downhill direction if there are no obstacles in your path. As you regain proper balance, gradually steer again in the direction you want to go.

CROSSING THROUGH SHALLOW WATER

If you must cross shallow, slow moving water up to the depth of the vehicle's floorboards, choose your path carefully to avoid sharp drop-offs, large rocks, or slippery surfaces that could cause the vehicle to overturn. Never operate through water deeper than 33 cm (13 in) or fast flowing water.

Wet brakes may have reduced effectiveness. After leaving the water, test your brakes. If necessary, apply the brakes several times to let friction dry out the linings.

⚠ WARNING

POTENTIAL HAZARD

Operating this vehicle through deep or fast-flowing water.

WHAT CAN HAPPEN

Loss of control, which could result in an accident including overturn, which could increase the risk of drowning.

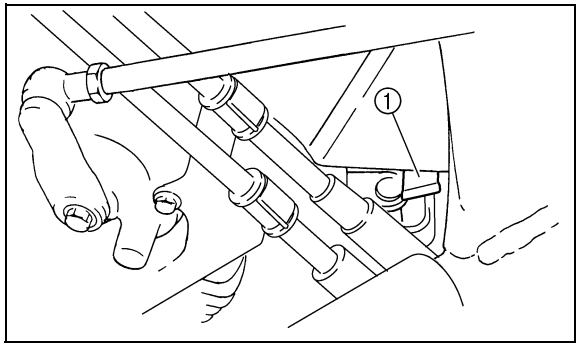
HOW TO AVOID THE HAZARD

Never operate this vehicle in fast flowing water or in water deeper than 33 cm (13 in).

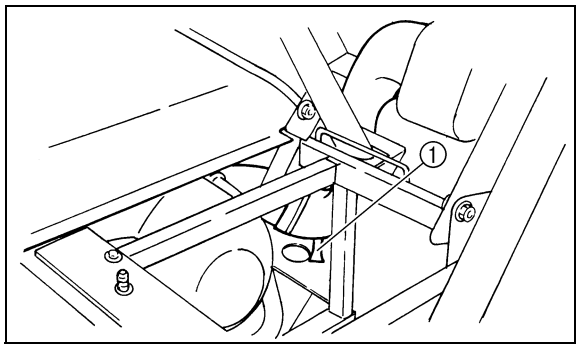
Remember that wet brakes may have reduced stopping ability. Test your brakes after leaving water. If necessary, apply them several times to let friction dry out the linings.

CAUTION:

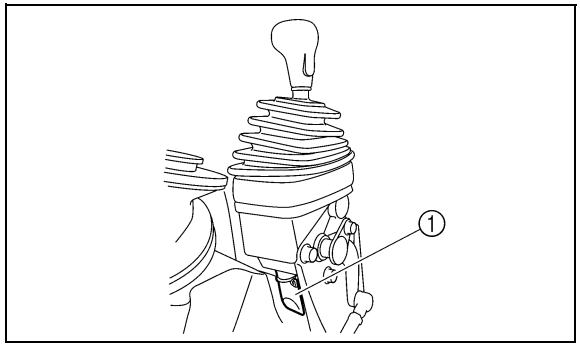
After riding your vehicle in water, be sure to drain the trapped water by removing the check hose at the bottom of the air filter case, the V-belt cooling duct check hose, the drive select lever box check hose and the V-belt case drain plug. Wash the vehicle in fresh water if it has been operated in salt water or muddy conditions.



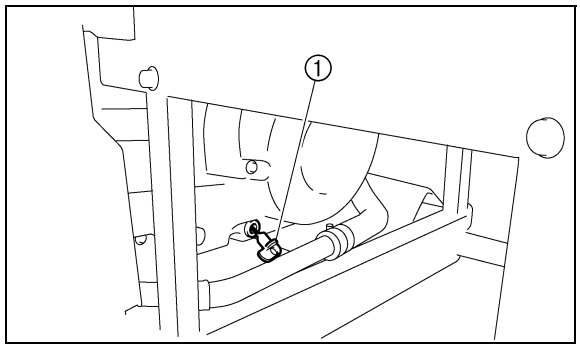
1. Air filter case check hose



1. V-belt cooling duct check hose



1. Drive select lever box check hose



1. V-belt case drain plug

RIDING OVER ROUGH TERRAIN

Operating over rough terrain should be done with caution. Look for obstacles that could cause damage to the vehicle or could lead to a rollover or accident. Avoid jumping the vehicle as injury, loss of control, and damage to the vehicle could occur.

⚠ WARNING

POTENTIAL HAZARD

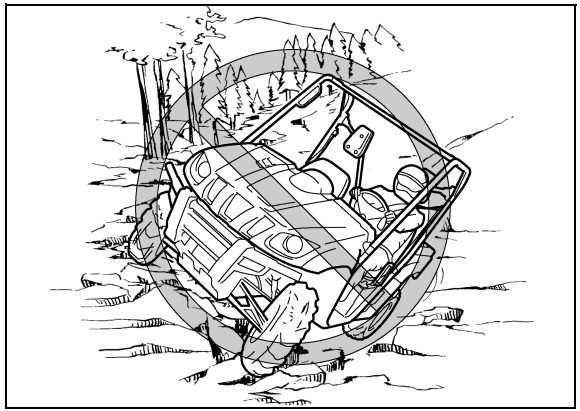
Failure to use extra care when operating this vehicle on unfamiliar terrain.

WHAT CAN HAPPEN

You can come upon hidden rocks, bumps, or holes, without enough time to react. Could result in the vehicle overturning or going out of control.

HOW TO AVOID THE HAZARD

Go slowly and be extra careful when operating on unfamiliar terrain. Always be alert to changing terrain conditions when operating the vehicle.



RIDING IN BRUSH OR WOODED AREAS

When operating in areas with brush or trees, watch carefully on both sides and above the vehicle for obstacles such as branches that the vehicle might hit, causing an accident, or for brush that might enter the vehicle as you pass and strike the driver or passenger. Never hold onto the enclosure so your hand is outside the vehicle. Hold only onto the handgrip inside the enclosure.

ENCOUNTERING OBSTACLES ON THE TRAIL

If you cannot go around an obstacle such as a fallen tree trunk or a ditch, stop the vehicle where it is safe to do so. Set the parking brake and get out to inspect the area thoroughly. Look from both your approach side and the exit side. If you believe you can continue safely, decide the path that will allow you to get over the obstacle at as close to a right angle as possible to minimize vehicle tipping. Go only fast enough to maintain your momentum but still give yourself plenty of time to react to changes in conditions. If there is any question about your ability to maneuver safely over the obstacle, you should turn around, if the ground is flat and you have the room, or back up until you find a less difficult path.

⚠ WARNING

POTENTIAL HAZARD

Improperly operating over obstacles

WHAT CAN HAPPEN

Could cause loss of control or a collision. Could cause the vehicle to overturn.

HOW TO AVOID THE HAZARD

Before operating in a new area, check for obstacles.

Use extreme caution when operating over large obstacles, such as large rocks or fallen trees.

PERIODIC MAINTENANCE AND ADJUSTMENT

Periodic inspection, adjustment and lubrication will keep your vehicle in the safest and most efficient condition possible. Safety is an obligation of the vehicle owner. The most important points of vehicle inspection, adjustment and lubrication are explained on the following pages.

⚠ WARNING

POTENTIAL HAZARD

Servicing an engine while it is running.

WHAT CAN HAPPEN

Moving parts can catch clothing or parts of the body, causing injury.

Electrical components can cause shocks or can start fires.

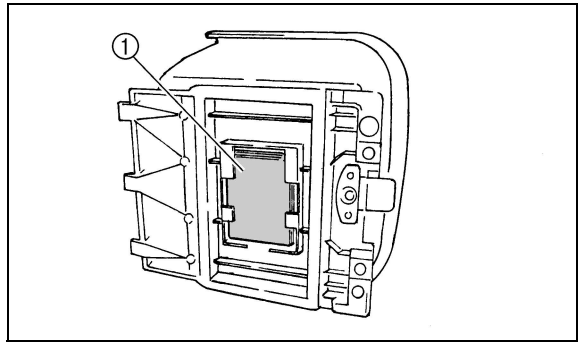
HOW TO AVOID THE HAZARD

Turn off the engine when performing maintenance unless otherwise specified.

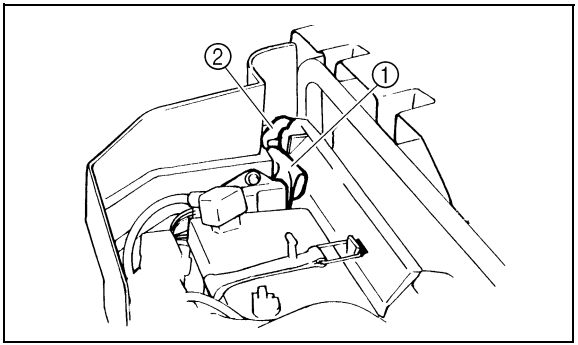
Have a Yamaha dealer perform service if you are not familiar with vehicle service.

Owner's manual and tool kit

You are recommended to put this owner's manual in the vinyl bag and always carry it on the bottom of the driver seat as shown. Put the owner's tool kit and tire pressure gauge in the space beside the battery.



1. Owner's manual



1. Owner's tool kit
2. Tire pressure gauge

The service information included in this manual is intended to provide you, the owner, with the necessary information for completing your own preventive maintenance and minor repairs. The tools provided in the Owner's tool kit are sufficient for this purpose, except that a torque wrench is also necessary to properly tighten nuts and bolts.

NOTE:

If you do not have a torque wrench available during a service operation requiring one, take your vehicle to a Yamaha dealer to check the torque settings and adjust them as necessary.

⚠ WARNING

POTENTIAL HAZARD

Operating this vehicle with improper modifications.

WHAT CAN HAPPEN

Improper installation of accessories or modification of this vehicle may cause changes in handling which in some situations could lead to an accident.

HOW TO AVOID THE HAZARD

Never modify this vehicle through improper installation or use of accessories. All parts and accessories added to this vehicle should be genuine Yamaha or equivalent components designed for use on this vehicle and should be installed and used according to instructions. If you have questions, consult an authorized Yamaha vehicle dealer.

PERIODIC MAINTENANCE/LUBRICATION

NOTE:

- For vehicles not equipped with an odometer or hour meter, follow the month maintenance intervals.
- For vehicles equipped with an odometer or an hour meter, follow the km (mi) or hours maintenance intervals. However, keep in mind that if the vehicle isn't used for a long period of time, the month maintenance intervals should be followed.

ITEM	ROUTINE	Whichever comes first ⇨		INITIAL			EVERY	
			month	1	3	6	6	12
			km (mi)	320 (200)	1,200 (750)	2,400 (1,500)	2,400 (1,500)	4,800 (3,000)
			hours	20	75	150	150	300
Valves*	• Check valve clearance. • Adjust if necessary.			○		○	○	○
Cooling system	• Check coolant leakage. • Repair if necessary. • Replace coolant every 24 months.			○	○	○	○	○
Spark plug	• Check condition. • Adjust gap and clean. • Replace if necessary.			○	○	○	○	○
Air filter elements (Engine and air intake duct)	• Clean. • Replace if necessary.			Every 20–40 hours (More often in wet or dusty areas.)				
Carburetor*	• Check idle speed/starter operation. • Adjust if necessary.				○	○	○	○
Crankcase breather system*	• Check breather hose for cracks or damage. • Replace if necessary.					○	○	○
Exhaust system*	• Check for leakage. • Tighten if necessary. • Replace gasket(s) if necessary.					○	○	○
Sparks arrester	• Clean.					○	○	○
Fuel line*	• Check fuel hose for cracks or damage. • Replace if necessary.					○	○	○
Engine oil	• Replace (warm engine before draining).			○		○	○	○
Engine oil filter cartridge	• Replace.			○		○		○
Final gear oil **Differential gear oil**	• Check oil level/oil leakage. • Replace.			○				○
Front brake*	• Check operation/brake pad wear/fluid leakage/see NOTE page 8-5. • Correct if necessary. Replace pads if worn to the limit.			○	○	○	○	○

ITEM	ROUTINE	Whichever comes first ⇨		INITIAL			EVERY	
			month	1	3	6	6	12
			km (mi)	320 (200)	1,200 (750)	2,400 (1,500)	2,400 (1,500)	4,800 (3,000)
			hours	20	75	150	150	300
Rear brake*	• Check operation/brake pad wear/fluid leakage/see NOTE page 8-5. • Correct if necessary. Replace pads if worn to the limit.			○	○	○	○	○
Accelerator pedal*	• Check operation and free play.			○	○	○	○	○
V-belt*	• Check operation. • Check for wear, cracks, or damage.			○			○	○
Wheels*	• Check balance/damage/runout. • Repair if necessary.			○		○	○	○
Wheel bearings*	• Check bearing assemblies for looseness/damage. • Replace if damaged.			○		○	○	○
Front and rear suspension*	• Check operation and for leakage. • Correct if necessary.					○		○
Steering system*	• Check operation and for looseness/Replace if damaged. • Check toe-in/Adjust if necessary.			○	○	○	○	○
Rear upper and lower knuckle pivots*	• Lubricate with lithium-soap-based grease.					○	○	○
Drive shaft universal joint*	• Lubricate with lithium-soap-based grease.					○	○	○
Engine mount*	• Check for cracks or damage. • Check bolt tightness.					○	○	○
Front and rear axle boots*	• Check operation. • Replace if damaged.			○				○
Stabilizer bushings*	• Check for cracks or damage.					○	○	○
Fittings and fasteners*	• Check all chassis fittings and fasteners. • Correct if necessary.			○	○	○	○	○

* Since these items require special tools, data and technical skills have a Yamaha dealer perform the service.

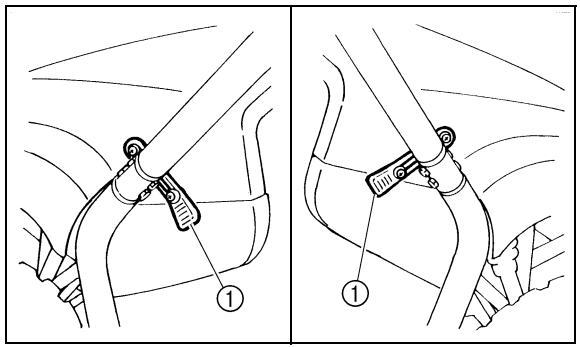
NOTE:

- Recommended brake fluid: DOT 4
- Brake fluid replacement:
  - When disassembling the master cylinder or caliper, replace the brake fluid. Normally check the brake fluid level and add fluid as required.
  - On the inner parts of the master cylinder and caliper, replace the oil seals every two years.
  - Replace the brake hoses every four years, or if cracked or damaged.

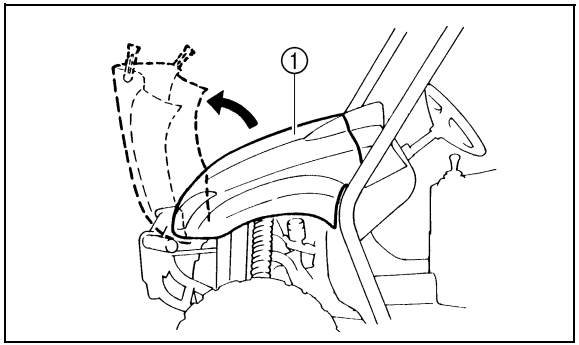
Hood

To open

Unhook the hood latches, and then slowly tilt the hood up until it stops.



1. Latch (× 2)

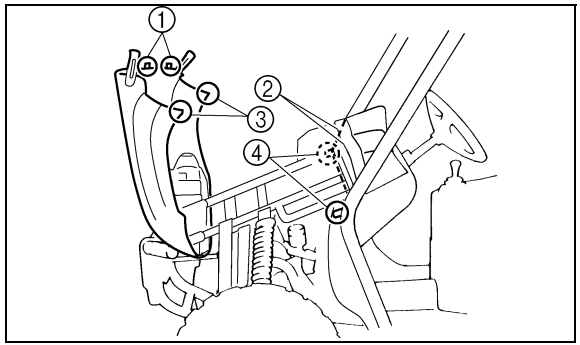


1. Hood

To close

Lower the hood slowly to its original position, and then hook the hood latches.

Secure projections ① on the underside of the hood into slots ② on the back of the instrument panel. Secure slots ③ on the side of the hood around projections ④ on the frame.



1. Projection (× 2)
2. Slot (× 2)
3. Slot (× 2)
4. Projection (× 2)

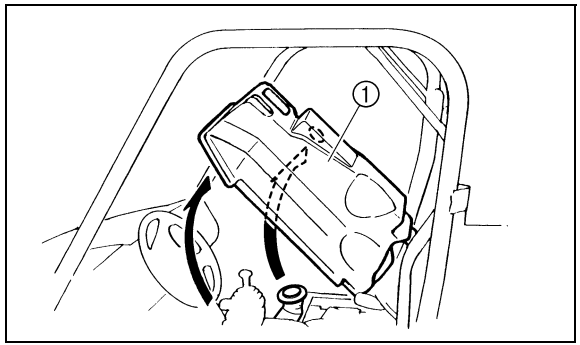
CAUTION:

- **Make sure that all cables and wires are in place when closing the hood.**
- **Do not drive the vehicle with the hood open, unlatched, or removed.**

Console

To remove

1. Remove the seats. (See page 4-15 for seat removal and installation procedures.)
2. Remove the parking brake lever boot.
3. Pull the console upward.



1. Console

To install

1. Place the console in its original position.
2. Install the parking brake lever boot.
3. Install the drive select lever boot correctly.
4. Install the seats.

CAUTION:

- **When installing the console, be sure not to pinch the cables or wires.**
- **Make sure that the groove at the bottom of the parking brake lever boot and the drive select lever boot fits securely around the edge of the hole in the console.**

Engine oil and oil filter cartridge

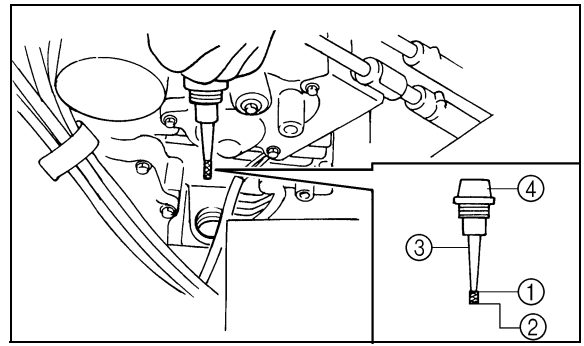
The engine oil level should be checked before each operation. In addition, the oil must be changed and the oil filter cartridge replaced at the intervals specified in the periodic maintenance and lubrication chart.

To check the engine oil level

1. Place the vehicle on a level surface.
2. Remove the console. (See page 8-8 for console removal and installation procedures.)
3. Start the engine, warm it up for several minutes, and then turn it off.
4. Wait a few minutes until the oil settles.
5. Remove the engine oil filler cap and wipe off the dipstick with a clean rag.
6. Insert the dipstick in the oil filler hole (without screwing it in), and then remove it again to check the oil level.

NOTE:

The engine oil should be between the minimum and maximum level marks.

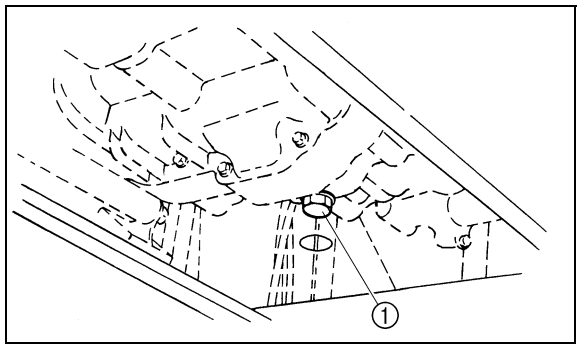


1. Maximum level mark
2. Minimum level mark
3. Dipstick
4. Engine oil filler cap

7. If the engine oil is at or below the minimum level mark, add sufficient oil of the recommended type to raise it to the correct level.
8. Insert the dipstick into the oil filler hole, and then tighten the oil filler cap.
9. Install the console.

To change the engine oil (with or without oil filter cartridge replacement)

1. Remove the console. (See page 8-8 for console removal and installation procedures.)
2. Start the engine, warm it up for several minutes, and then turn it off.
3. Place an oil pan under the engine to collect the used oil, and then remove the engine oil filler cap.
4. Remove the engine oil drain bolt to drain the oil from the crankcase.

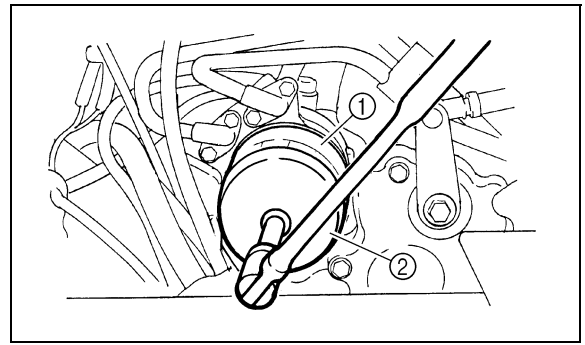


1. Engine oil drain bolt

NOTE:

Skip steps 5–7 if the oil filter cartridge is not being replaced.

5. Remove the oil filter cartridge with an oil filter wrench.



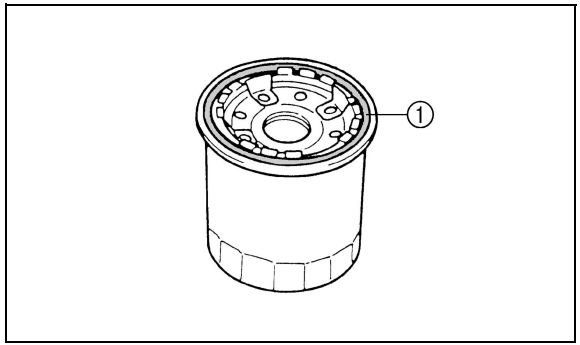
1. Oil filter cartridge
2. Oil filter wrench

NOTE:

An oil filter wrench is available at a nearby Yamaha dealer.

6. Apply a light coat of engine oil to the O-ring of the new oil filter cartridge.

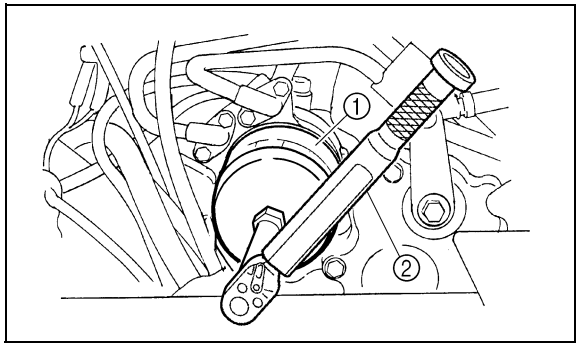
NOTE:
Make sure the O-ring is seated properly.



1. O-ring

7. Install the new oil filter cartridge with an oil filter wrench, and then tighten it to the specified torque with a torque wrench.

Tightening torque:
Oil filter cartridge:
17 Nm (1.7 m·kgf, 12 ft·lbf)



1. Oil filter cartridge 2. Torque wrench

8. Install the engine oil drain bolt, and then tighten it to the specified torque.

Tightening torque:
Engine oil drain bolt:
30 Nm (3.0 m·kgf, 22 ft·lbf)

9. Add the specified amount of recommended engine oil, and then install the engine oil filler cap and tighten it.

Recommended engine oil:
See page 10-2.
Oil quantity:
Without oil filter cartridge replacement:
1.90 L (1.67 Imp qt, 2.01 US qt)
With oil filter cartridge replacement:
2.00 L (1.76 Imp qt, 2.11 US qt)

CAUTION:

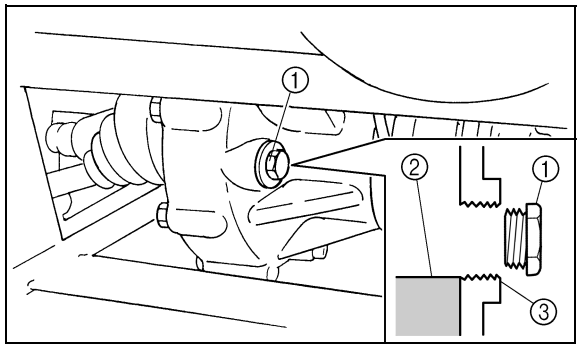
- **In order to prevent clutch slippage (since the engine oil also lubricates the clutch), do not mix any chemical additives. Do not use oils with a diesel specification of "CD" or oils of a higher quality than specified. In addition, do not use oils labeled "ENERGY CONSERVING II" or higher.**
- **Make sure that no foreign material enters the crankcase.**

10. Start the engine and warm it up for several minutes. While warming up, check for oil leakage. If oil leakage is found, turn the engine off immediately and check for the cause.
11. Turn the engine off, and then check the oil level and correct it if necessary.
12. Install the console.

Final gear oil

Checking the final gear oil level

1. Place the vehicle on a level surface.
2. Remove the oil filler bolt, and then check the oil level in the final gear case.



1. Final gear oil filler bolt
2. Final gear oil
3. Proper oil level

NOTE:

The oil level should be at the brim of the filler hole.

3. If the oil is below the brim of the filler hole, add sufficient oil of the recommended type to raise it to the correct level.

CAUTION:

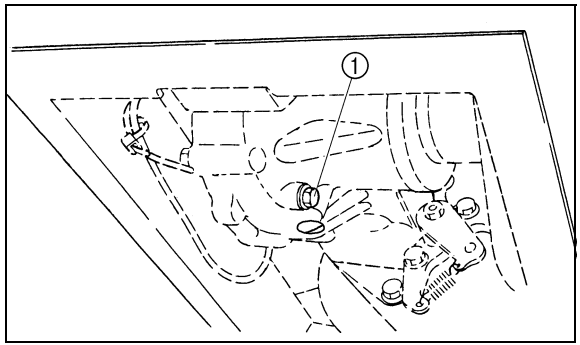
Be sure no foreign material enters the final gear case.

4. Install the oil filler bolt, and then tighten it to the specified torque.

Tightening torque:
Final gear oil filler bolt:
23 Nm (2.3 m·kgf, 16 ft·lbf)

Changing the final gear oil

1. Place the vehicle on a level surface.
2. Place a container under the final gear case to collect the used oil.
3. Remove the oil filler bolt and the drain bolt to drain the oil.



1. Final gear oil drain bolt

4. Install the drain bolt, and then tighten it to the specified torque.

Tightening torque:
Final gear oil drain bolt:
20 Nm (2.0 m·kgf, 14 ft·lbf)

5. Add the recommended final gear oil up to the brim of the filler hole.

Recommended oil:
SAE 80 API GL-4 Hypoid gear oil
Oil quantity:
0.25 L (0.22 Imp qt, 0.26 US qt)

CAUTION:

Be sure no foreign material enters the final gear case.

6. Install the oil filler bolt, and then tighten it to the specified torque.

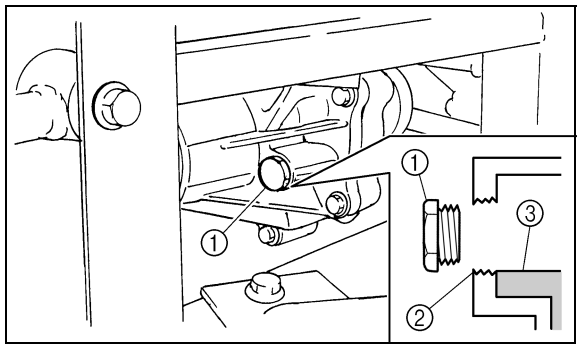
Tightening torque:
Final gear oil filler bolt:
23 Nm (2.3 m·kgf, 16 ft·lbf)

7. Check for oil leakage. If oil leakage is found, check for the cause.

Differential gear oil

Checking the differential gear oil

1. Place the vehicle on a level surface.
2. Remove the differential gear oil filler bolt and check the oil level. It should be up to the brim of the filler hole. If the level is low, add sufficient oil of the recommended type to raise it to the specified level.



1. Differential gear oil filler bolt
2. Proper oil level
3. Differential gear oil

CAUTION:

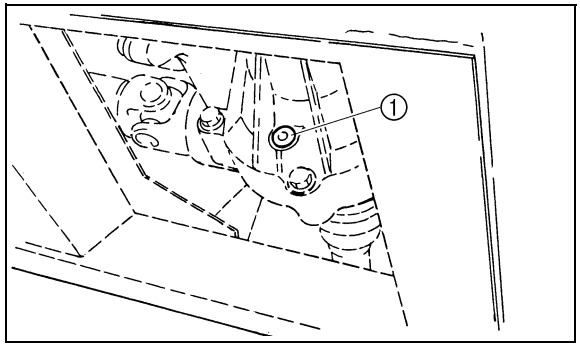
Be sure no foreign material enters the differential gear case.

3. Install the differential gear oil filler bolt, and then tighten it to the specified torque.

Tightening torque:
Differential gear oil filler bolt:
23 Nm (2.3 m·kgf, 16 ft·lbf)

Changing the differential gear oil

1. Place the vehicle on a level surface.
2. Place a container under the differential gear case to collect the used oil.
3. Remove the differential gear oil filler bolt and differential gear oil drain bolt to drain the oil.



1. Differential gear oil drain bolt

4. Install the differential gear oil drain bolt, and tighten it to the specified torque.

Tightening torque:
Differential gear oil drain bolt:
9.8 Nm (0.98 m·kgf, 7.1 ft·lbf)

5. Fill the differential gear case with the recommended oil.

Recommended oil:
SAE 80 API GL-4 Hypoid gear oil
Oil quantity:
0.32 L (0.28 Imp qt, 0.34 US qt)

CAUTION:

Be sure no foreign material enters the differential gear case.

6. Install the differential gear oil filler bolt, and then tighten it to the specified torque.

Tightening torque:
Differential gear oil filler bolt:
23 Nm (2.3 m·kgf, 16 ft·lbf)

7. Check for oil leakage. If oil leakage is found, check for the cause.

Coolant

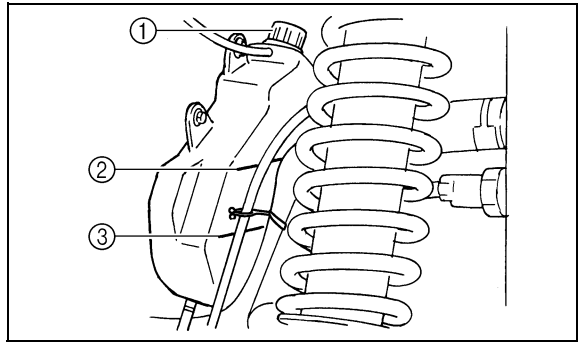
The coolant level should be checked before each ride.

Checking the coolant level

1. Place the vehicle on a level surface.
2. Open the hood. (See pages 8-6–8-7 for hood opening and closing procedures.)
3. Check the coolant level in the coolant reservoir when the engine is cold as the coolant level varies with engine temperature.

NOTE:

The coolant should be between the minimum and maximum level marks.



1. Coolant reservoir cap
2. Maximum level mark
3. Minimum level mark

4. If the coolant is at or below the minimum level mark, remove the reservoir cap, add coolant to the maximum level mark, install the reservoir cap, and then close the hood.

Coolant reservoir capacity
(up to the maximum level mark):
0.35 L (0.31 Imp qt, 0.37 US qt)

CAUTION:

Mix anti freeze with distilled water only. However, if distilled water is not available, soft water may be used for refilling.

Changing the coolant

The coolant must be changed by a Yamaha dealer at the intervals specified in the periodic maintenance and lubrication chart.

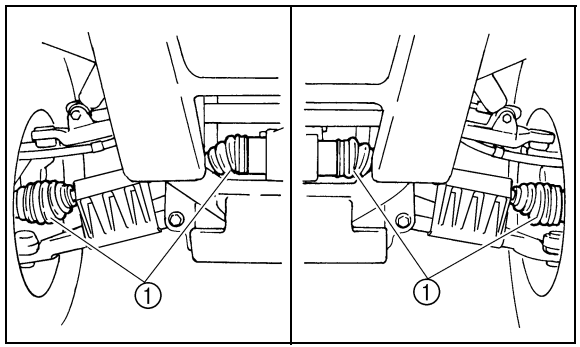
NOTE:

- Adding water instead of coolant lowers the antifreeze content of the coolant. If water is used instead of coolant, have a Yamaha dealer check the antifreeze content of the coolant as soon as possible.
- The radiator fan operation is completely automatic. It is switched on or off according to the coolant temperature in the radiator.

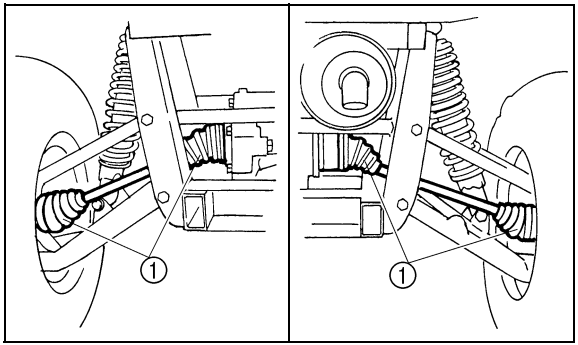
If your vehicle overheats, see page 8-52 for details.

Axle boots

Check the protective boots for holes or tears. If any damage is found, have them replaced by a Yamaha dealer.



1. Front axle boot (× 2 each side)

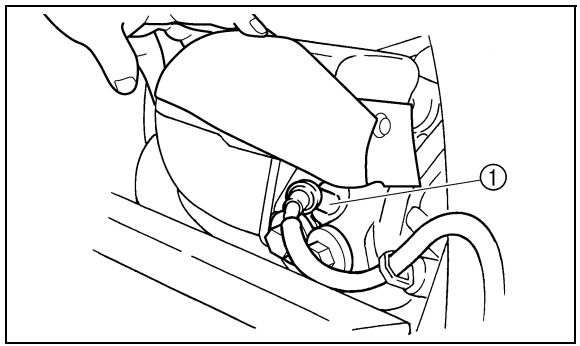


1. Rear axle boot (× 2 each side)

Spark plug inspection

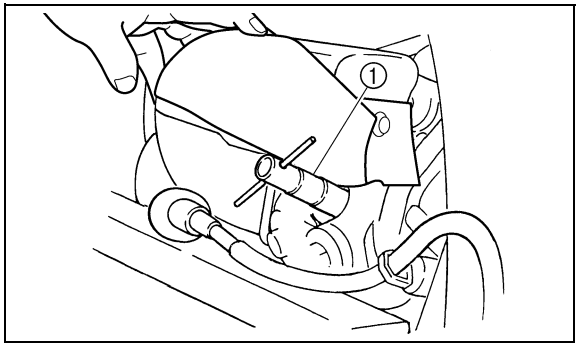
Removal

1. Lift the cargo bed up. (See pages 4-18–4-21 for cargo bed lifting and lowering procedures.)
2. Remove the spark plug cap.



1. Spark plug cap

3. Use the spark plug wrench in the tool kit to remove the spark plug as shown.



1. Spark plug wrench

Inspection

The spark plug is an important engine component and is easy to inspect. The condition of the spark plug can indicate the condition of the engine.

The ideal color of the porcelain insulator around the center electrode is a medium-to-light tan for a vehicle that is being ridden normally.

Do not attempt to diagnose such problems yourself.

Instead, take the vehicle to a Yamaha dealer.

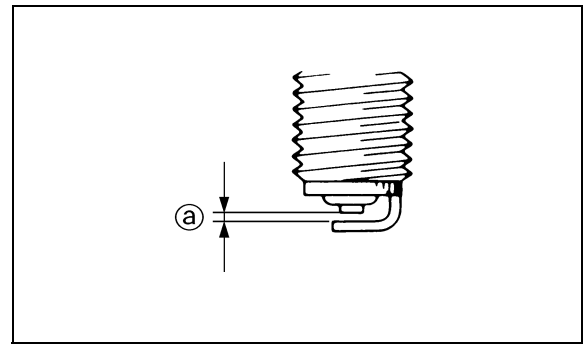
You should periodically remove and inspect the spark plug because heat and deposits will cause the spark plug to slowly break down and erode. If electrode erosion becomes excessive, or if carbon and other deposits are excessive, you should replace the spark plug with the specified plug.

Specified spark plug:
DPR8EA-9 (NGK)

Installation

1. Measure the electrode gap with a wire thickness gauge and, if necessary, adjust the gap to specification.

Spark plug gap:
0.8–0.9 mm (0.031–0.035 in)



a. Spark plug gap

2. Clean the surface of the spark plug gasket and its mating surface, and then wipe off any grime from the spark plug threads.

3. Install the spark plug and tighten it to the specified torque.

Tightening torque:
Spark plug:
17.5 Nm (1.75 m·kgf, 12.7 ft·lbf)

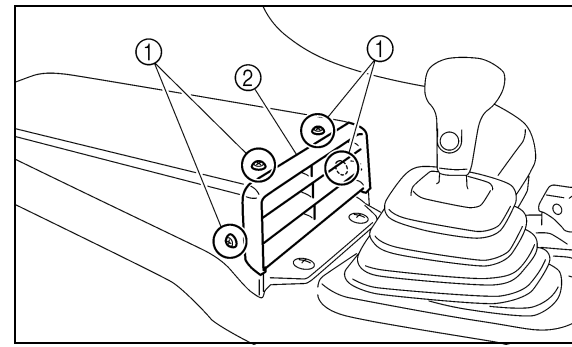
NOTE:
If a torque wrench is not available when you are installing the spark plug, a good estimate of the correct torque is 1/4 to 1/2 turn past finger tight. Have the spark plug tightened to the specified torque as soon as possible.

4. Install the spark plug cap.
5. Lower the cargo bed.

Cleaning the air filter elements

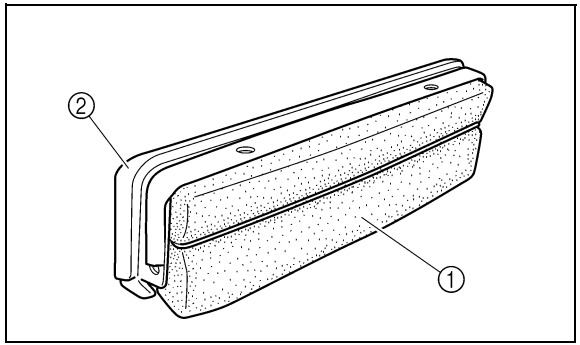
Cleaning the intake duct air filter element

1. Remove the air intake duct grill by removing the quick fastener screws.



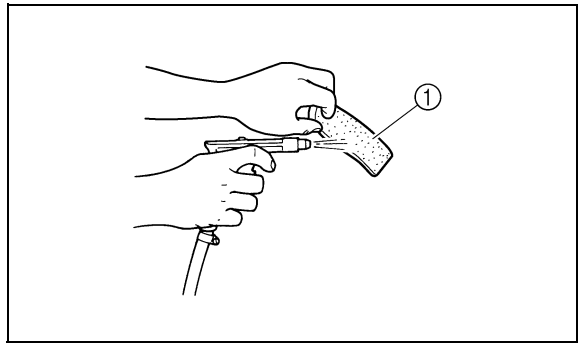
1. Quick fastener screw (× 4)
2. Air intake duct grill

2. Remove the air filter element from the air intake duct grill by pulling it out.



1. Air filter element 2. Air intake duct grill

3. Remove any large particles from the air filter element by hand.
4. Tap the air filter element to remove most of the dust and dirt, and then blow the remaining dirt out with compressed air.

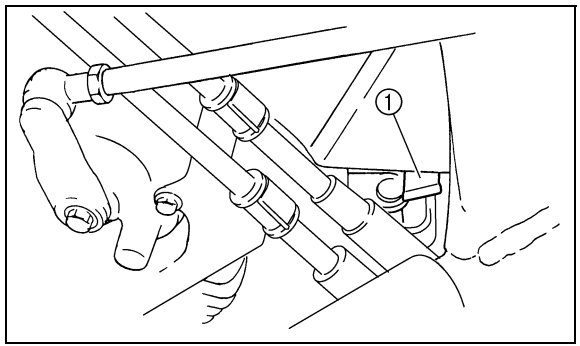


1. Air filter element

5. Install the air filter element into the air intake duct grill.
6. Install the air intake duct grill by installing the quick fastener screws.

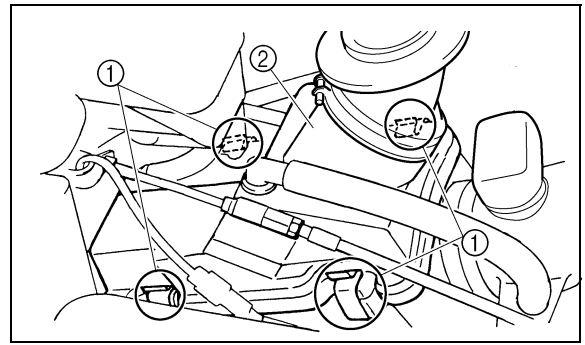
Cleaning the engine air filter element

NOTE:
There is a check hose at the bottom of the air filter case. If dust or water collects in this hose, empty the hose and clean the air filter element and air filter case.



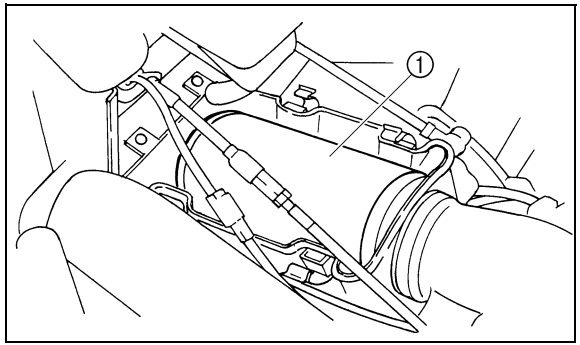
1. Air filter case check hose

1. Remove the seats. (See page 4-15 for seat removal and installation procedures.)
2. Remove the console. (See page 8-8 for console removal and installation procedures.)
3. Remove the air filter case cover by unhooking the holders.

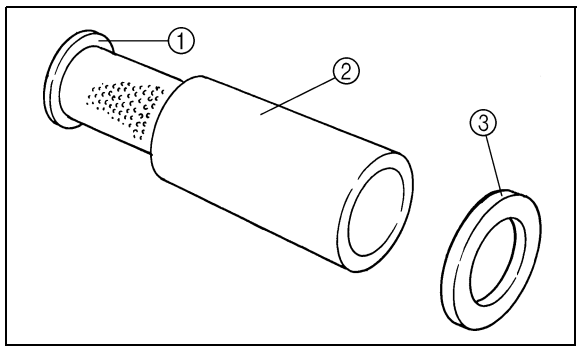


1. Holder (× 4)
2. Air filter case cover

4. Remove the air filter element.
5. Remove the air filter element from its frame.



1. Air filter element



1. Air filter frame
2. Air filter element
3. Element retaining plate

6. Wash the air filter element gently but thoroughly in solvent.

⚠ WARNING

POTENTIAL HAZARD

Using low flash point solvents or gasoline to clean the air filter element.

WHAT CAN HAPPEN

Low flash point solvents or gasoline can catch fire or explode.

HOW TO AVOID THE HAZARD

Use parts cleaning solvent to clean the air filter element.

7. Squeeze the excess solvent out of the air filter element and let it dry.

CAUTION:

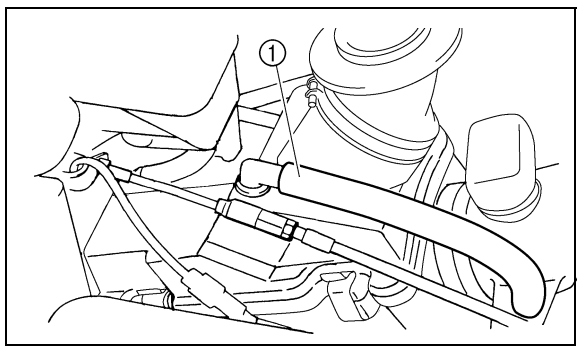
Do not twist the air filter element when squeezing it.

8. Inspect the air filter element and replace it if damaged.

9. Thoroughly apply Yamaha foam air filter oil or other quality liquid foam air filter oil (not spray type) to the air filter element.

NOTE:
The air filter element should be wet but not dripping.

10. Pull the air filter element over its frame.
11. Install the air filter element.
12. Install the air filter case cover and be sure the crankcase breather hose is connected.



1. Crankcase breather hose

13. Install the console.
14. Install the seats.

NOTE:
The air filter element should be cleaned every 20–40 hours. It should be cleaned and lubricated more often if the vehicle is operated in extremely dusty areas. Each time air filter element maintenance is performed, check the air inlet to the air filter case for obstructions. Check the air filter element rubber joint to the carburetor and manifold fittings for an airtight seal. Tighten all fittings securely to avoid the possibility of unfiltered air entering the engine.

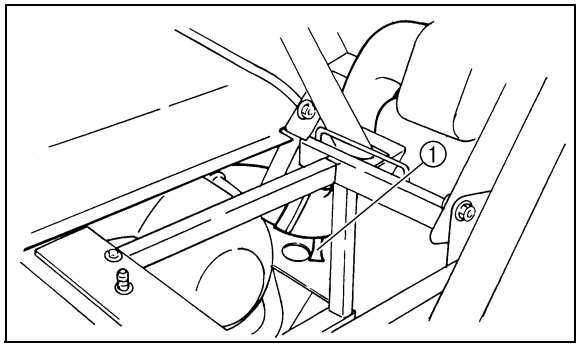
CAUTION:

Never operate the engine with the air filter element removed. This will allow unfiltered air to enter, causing rapid engine wear and possible engine damage. Additionally, operation without the air filter element will affect carburetor jetting with subsequent poor performance and possible engine overheating.

V-belt cooling duct check hose

The V-belt cooling duct check hose is located under the driver seat. (See page 4-15 for seat removal and installation procedures.)

If dust or water collects in the V-belt cooling duct check hose, remove the hose and clean it.



1. V-belt cooling duct check hose

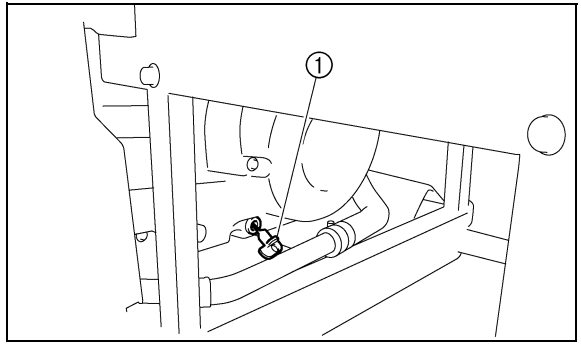
V-belt case drain plug

The V-belt case drain plug is located under the driver seat. (See page 4-15 for seat removal and installation procedures.)

After riding in water deep enough to allow water to enter the V-belt case, remove the drain plug to drain any water from the case.

NOTE:

If water drains from the V-belt case after removing the drain plug, have a Yamaha dealer inspect the vehicle as the water may affect other engine parts.



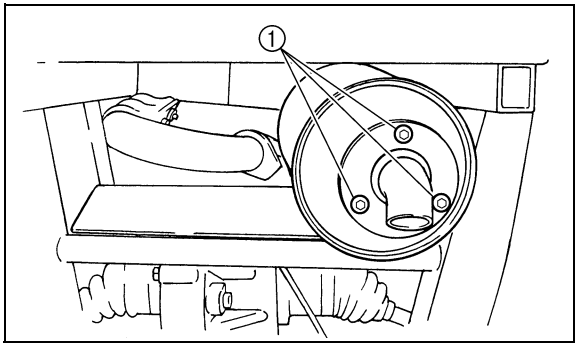
1. V-belt case drain plug

Spark arrester cleaning

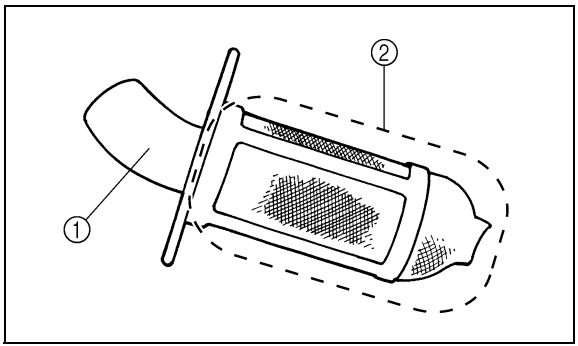
Be sure the exhaust pipe and muffler are cool before cleaning the spark arrester.

1. Remove the bolts.
2. Remove the tailpipe by pulling it out of the muffler.
3. Tap the tailpipe lightly, and then use a wire brush to remove any carbon deposits from the spark arrester portion of the tailpipe.
4. Insert the tailpipe into the muffler and align the bolt holes.
5. Install the tailpipe by installing the bolts, and then tighten the bolts to the specified torque.

Tightening torque:
Tailpipe bolt:
9.5 N·m (0.95 m·kgf, 6.9 ft·lbf)



1. Bolt (× 3)



1. Tailpipe 2. Spark arrester

⚠ WARNING

POTENTIAL HAZARD

Improper cleaning of the spark arrester.
Hot exhaust system

WHAT CAN HAPPEN

Could injure the eyes.
Could cause burns.
Could cause carbon monoxide poisoning, possibly leading to death.
Could start a fire.

HOW TO AVOID THE HAZARD

When cleaning the spark arrester:
Always let the exhaust system cool prior to touching exhaust components.
Do not start the engine when cleaning the exhaust system.

Carburetor adjustment

The carburetor is a vital part of the engine and requires very sophisticated adjustment. Most adjusting should be left to a Yamaha dealer who has the professional knowledge and experience to do so. However, the idling speed may be performed by the owner as a part of the usual maintenance routine.

CAUTION:

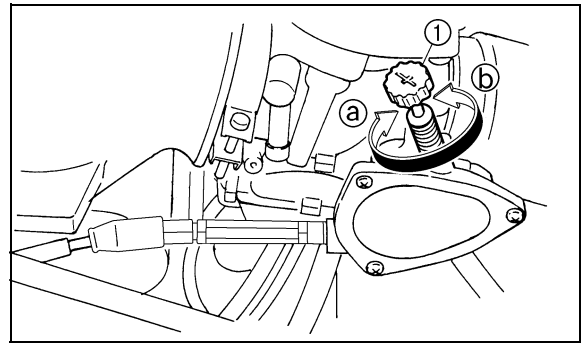
The carburetor was set at the Yamaha factory after many tests. If the settings are disturbed by someone without sufficient technical knowledge, poor engine performance and damage may result.

Idle speed adjustment

NOTE:
A diagnostic tachometer must be used for this procedure.

1. Start the engine and warm it up for a few minutes at approximately 1,000 to 2,000 r/min. Occasionally rev the engine to 4,000 to 5,000 r/min. The engine is warm when it quickly responds to the throttle.
2. Remove the seats. (See page 4-15 for seat removal and installation procedures.)
3. Remove the console. (See page 8-8 for console removal and installation procedures.)
4. Connect the tachometer to the spark plug lead, and then set the idle to the specified idling speed by adjusting the throttle stop screw. Turn the screw in direction ⓐ to increase the engine speed, and in direction ⓑ to decrease the engine speed.

Specified idle speed:
1,450–1,550 r/min



1. Throttle stop screw

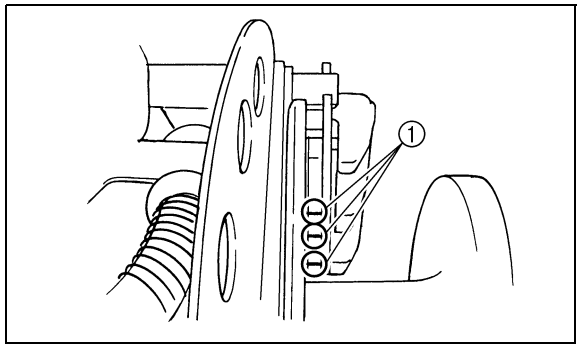
5. Install the console.
6. Install the seats.

Valve clearance adjustment

The correct valve clearance changes with use, resulting in improper fuel/air supply or engine noise. To prevent this, the valve clearance must be adjusted regularly. This adjustment however, should be left to a professional Yamaha service technician.

Front brake pad check

Each brake pad is provided with wear indicator grooves, which allow you to check the brake pad wear without having to disassemble the brake. To check the brake pad wear, check the wear indicator grooves. If a brake pad has worn to the point that the wear indicator grooves have almost disappeared, have a Yamaha dealer replace the brake pads as a set.



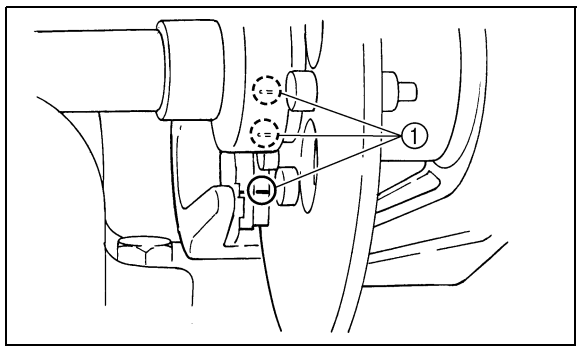
1. Brake pad wear indicator groove

NOTE:

The wheels need to be removed to check the brake pads. (See pages 8-40–8-41 for wheel removal and installation procedures.)

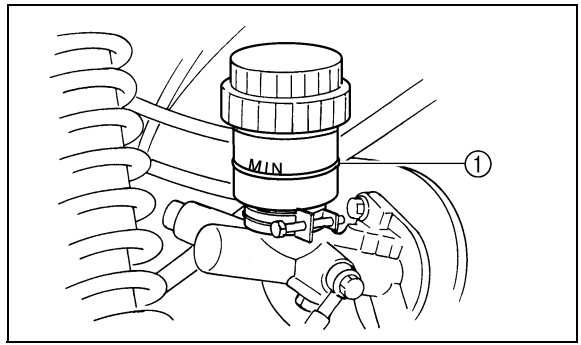
Rear brake pad check

Each brake pad is provided with wear indicator grooves, which allow you to check the brake pad wear without having to disassemble the brake. To check the brake pad wear, check the wear indicator grooves. If a brake pad has worn to the point that the wear indicator grooves have almost disappeared, have a Yamaha dealer replace the brake pads as a set.



1. Brake pad wear indicator groove

Checking the brake fluid level



1. Minimum level mark

Insufficient brake fluid may let air enter the brake system, possibly causing the brakes to become ineffective.

Before riding, check that the brake fluid is above the minimum level mark and replenish if necessary. A low brake fluid level may indicate worn brake pads and/or brake system leakage. If the brake fluid level is low, be sure to check the brake pads for wear and the brake system for leakage.

The brake fluid reservoir is located under the hood. (See pages 8-6–8-7 for hood opening and closing procedures.)
Observe these precautions:

- When checking the fluid level, make sure the top of the brake fluid reservoir is level.
- Use only the recommended quality brake fluid. Otherwise, the rubber seals may deteriorate, causing leakage and poor braking performance.

Recommended brake fluid: DOT 4

- Refill with the same type of brake fluid. Mixing fluids may result in a harmful chemical reaction and lead to poor braking performance.
- Be careful that water does not enter the brake fluid reservoir when refilling. Water will significantly lower the boiling point of the fluid and may result in vapor lock.
- Brake fluid may deteriorate painted surfaces or plastic parts. Always clean up spilled fluid immediately.
- Have a Yamaha dealer inspect the brake system if the brake fluid level goes down.

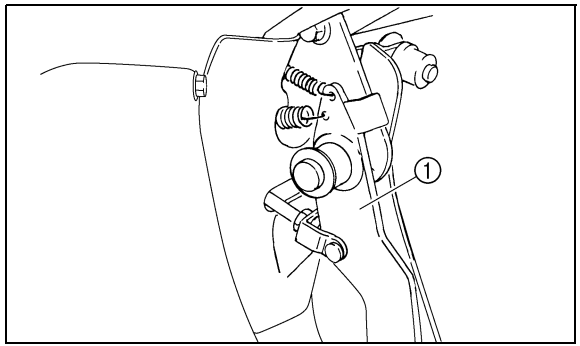
Brake fluid replacement

Complete fluid replacement should be done only by trained Yamaha service personnel. Have a Yamaha dealer replace the following components during periodic maintenance or when they are damaged or leaking.

- Replace the oil seals every two years.
- Replace the brake hoses every four years.

Checking the brake pedal

Have a Yamaha dealer check the brakes at the intervals specified in the periodic maintenance and lubrication chart. There should be no free play in the brake pedal. The brakes should operate smoothly and there should be no brake drag. If the brakes feel soft or spongy, this could indicate air in the brake system. Have a Yamaha dealer check the brake system if necessary.



1. Brake pedal

⚠ WARNING

POTENTIAL HAZARD

Operating with improperly serviced or adjusted brakes.

WHAT CAN HAPPEN

You could lose braking ability, which could lead to an accident.

HOW TO AVOID THE HAZARD

After servicing:

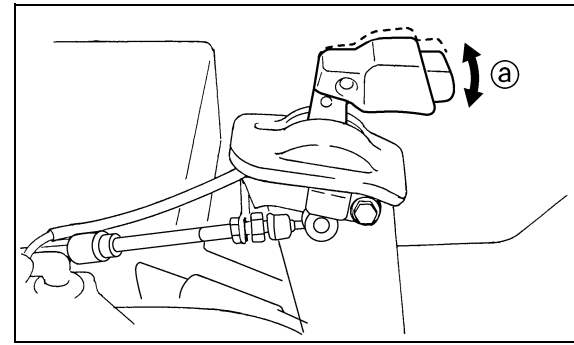
- **Make sure the brakes operate smoothly and that the brake pedal position is correct.**
- **Make sure the brakes do not drag.**
- **All air must be bled from the brake system.**

Replacement of brake components requires professional knowledge. These procedures should be performed by a Yamaha dealer.

Parking brake lever free play adjustment

Periodically check the parking brake lever free play and adjust it if necessary.

1. Shift the drive select lever into low gear "L".
2. Remove the seats. (See page 4-15 for seat removal and installation procedures.)
3. Remove the console. (See page 8-8 for console removal and installation procedures.)
4. Check the parking brake lever free play. The maximum free play is equal to one click of the parking brake lever. If necessary, adjust the free play as follows.

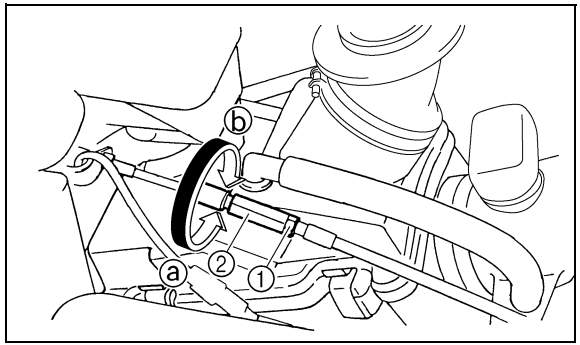


a. Parking brake lever free play

NOTE:

The parking brake lever must be released when checking and adjusting the parking brake lever free play.

5. Loosen the locknut.



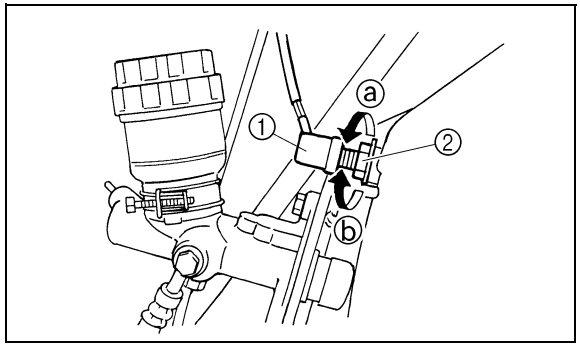
1. Locknut 2. Adjusting nut

6. Turn the adjusting nut in direction ⓐ to increase the free play or in direction ⓑ to decrease the free play.
7. Tighten the locknut.
8. Install the console.
9. Install the seats.

Brake light switch adjustment

The brake light switch, which is activated by the brake pedal, is properly adjusted when the brake light comes on just before braking takes effect. If necessary, adjust the brake light switch as follows.

1. Open the hood. (See pages 8-6–8-7 for hood opening and closing procedures.)
2. Turn the adjusting nut while holding the brake light switch in place. To make the brake light come on earlier, turn the adjusting nut in direction ⓐ. To make the brake light come on later, turn the adjusting nut in direction ⓑ.



1. Brake light switch 2. Adjusting nut

3. Close the hood.

Cable inspection and lubrication

⚠ WARNING

POTENTIAL HAZARD

Damaged control cables.

WHAT CAN HAPPEN

Corrosion can result when the outer covering of control cables becomes damaged. Cables can also become frayed or kinked. Operation of controls could be restricted, which could cause an accident or injury.

HOW TO AVOID THE HAZARD

Inspect cables frequently. Replace damaged cables.

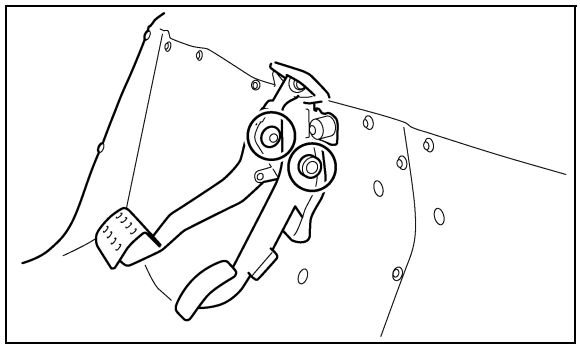
Lubricate the inner cables and the cable ends. If the cables do not operate smoothly, ask a Yamaha dealer to replace them.

Recommended lubricant:
Yamaha chain and cable lube or SAE 10W30 motor oil

Brake pedal and accelerator pedal lubrication

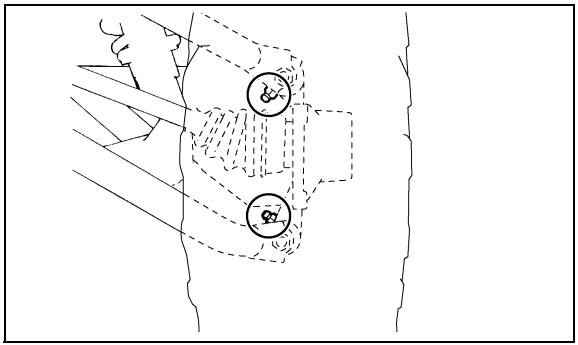
Lubricate the pivoting parts.

Recommended lubricant:
Lithium-soap-based grease
(all-purpose grease)



Rear knuckle upper and lower pivot lubrication

Lubricate the knuckle upper and lower pivots with a grease gun.

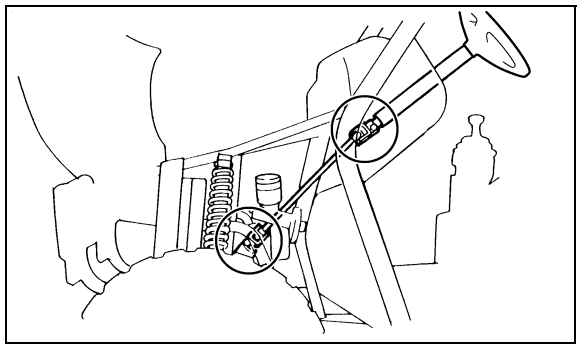


Recommended lubricant:
Lithium-soap-based grease

Steering shaft lubrication

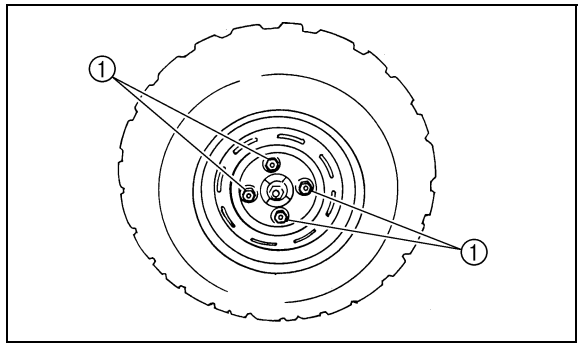
Lubricate the pivot points.

Recommended lubricant:
Lithium-soap-based grease
(all purpose grease)



Wheel removal

1. Loosen the wheel nuts.
2. Elevate the vehicle and place a suitable stand under the frame.
3. Remove the nuts from the wheel.
4. Remove the wheel.



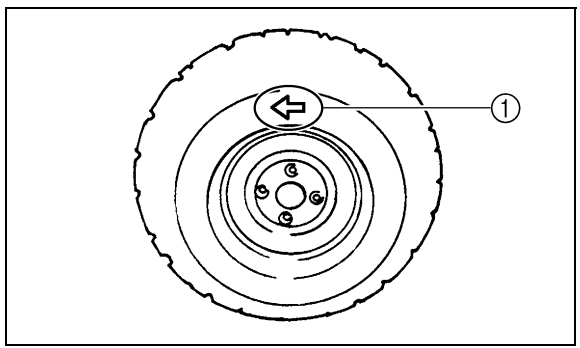
1. Nut (× 4)

Wheel installation

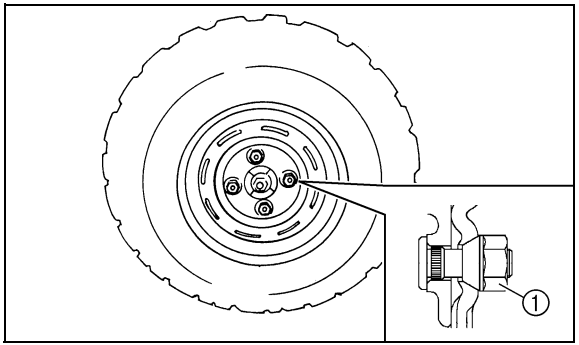
1. Install the wheel and the nuts.

NOTE:

- The arrow mark ⇦ on the tire must point toward the rotating direction of the wheel.
- Tapered nuts are used for both the front and rear wheels. Install the nut with its tapered side towards the wheel.



1. Arrow mark



1. Tapered nut

2. Lower the vehicle so that the wheel is on the ground.
3. Tighten the wheel nuts to the specified torque.

Wheel nut torque:
Front: 55 Nm (5.5 m·kgf, 40 ft·lbf)
Rear: 55 Nm (5.5 m·kgf, 40 ft·lbf)

Battery

This vehicle is equipped with a sealed-type battery. Therefore it is not necessary to check the electrolyte or add distilled water in the battery. If the battery seems to have discharged, consult a Yamaha dealer.

CAUTION:

Do not try to remove the sealing caps of the battery cells. You may damage the battery.

⚠ WARNING

POTENTIAL HAZARD

Failure to handle batteries or battery electrolyte carefully.

WHAT CAN HAPPEN

You could be poisoned. You could be severely burned by the sulfuric acid in battery electrolyte. Batteries produce explosive gases.

HOW TO AVOID THE HAZARD

Avoid contact with skin, eyes or clothing. Always shield eyes when working near batteries. Keep out of reach of children.

Antidote:

EXTERNAL: Flush with water.

INTERNAL: Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg or vegetable oil. Get prompt medical attention.

EYES: Flush with water for 15 minutes and get prompt medical attention. Keep batteries away from sparks, flames, cigarettes or other sources of ignition. Ventilate when charging or using in a closed space.

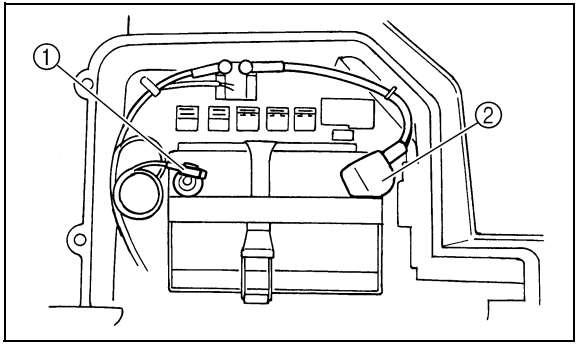
Battery maintenance

1. When the vehicle is not used for a month or longer, remove the battery and store it in a cool, dark place. Completely recharge the battery before reinstallation.

CAUTION:

A special battery charger (constant voltage/ampere or constant voltage) is required for recharging a sealed-type battery. Using a conventional battery charger may shorten the battery life.

2. Always make sure the connections are correct when putting the battery back in the vehicle.



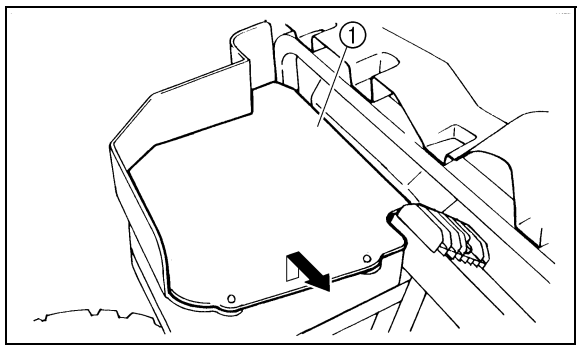
1. Negative battery lead 2. Positive battery lead

Fuse replacement

The main fuse and the fuse box are located under the hood. (See pages 8-6–8-7 for hood opening and closing procedures.)

If a fuse is blown, turn off the main switch and install a new fuse of the specified amperage. If a fuse is blown, replace it as follows.

1. Remove the battery compartment cover by lifting it up and pulling it out.



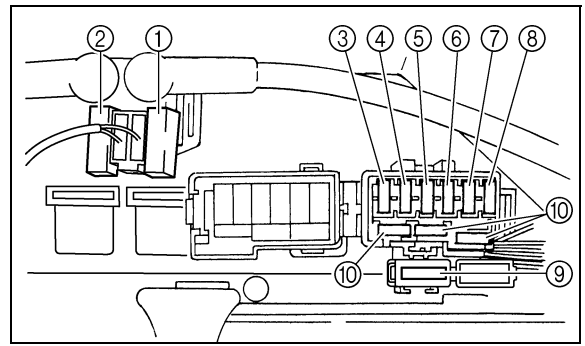
1. Battery compartment cover

2. Turn the key to “OFF” and turn off the electrical circuit in question.

CAUTION:

To prevent accidental short-circuiting, turn off the main switch when checking or replacing a fuse.

3. Remove the blown fuse, and then install a new fuse of the specified amperage.



1. Main fuse
2. Spare main fuse
3. Headlight fuse
4. Ignition fuse
5. Auxiliary DC jack fuse
6. Four-wheel-drive fuse
7. Signaling system fuse
8. Backup fuse (for optional speedometer)
9. Carburetor heater fuse
10. Spare fuse (× 3)

Specified fuses:	
Main fuse:	30.0 A
Headlight fuse:	15.0 A
Ignition fuse:	10.0 A
Auxiliary DC jack fuse:	10.0 A
Signaling system fuse:	10.0 A
Carburetor heater fuse:	10.0 A
Four-wheel-drive fuse:	3.0 A
Backup fuse:	10.0 A

4. Turn the key to “ON” and turn on the electrical circuit in question to check if the device operates.
5. If the fuse immediately blows again, have a Yamaha dealer check the electrical system.
6. Install the battery compartment cover.
7. Close the hood.

⚠ WARNING

POTENTIAL HAZARD

Using an improper fuse

WHAT CAN HAPPEN

An improper fuse can cause damage to the electrical system, which could lead to a fire.

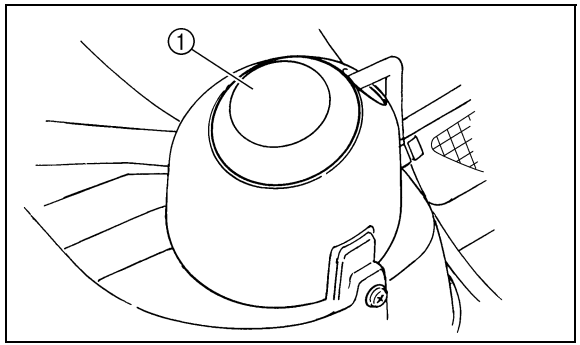
HOW TO AVOID THE HAZARD

Always use a fuse of the specified rating. Never use a material in place of the proper fuse.

Replacing a headlight bulb

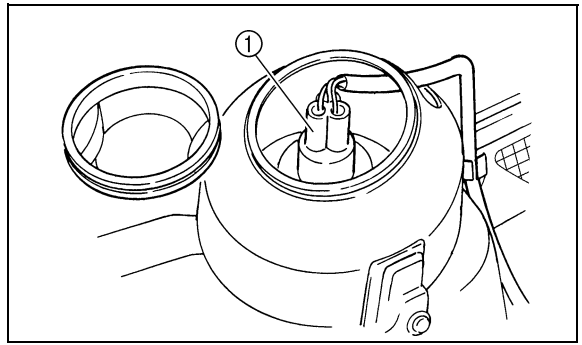
If a headlight bulb burns out, replace it as follows.

1. Lift the hood up. (See pages 8-6–8-7 for hood opening and closing procedures.)
2. Remove the bulb holder cover at the rear of the headlight by pulling it off.



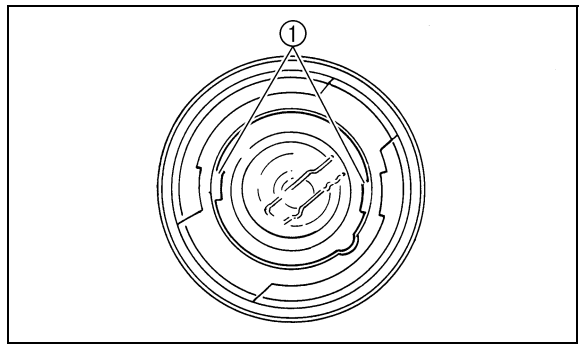
1. Headlight bulb holder cover

3. Remove the headlight bulb holder by turning it counterclockwise.



1. Headlight bulb holder

4. Remove the defective bulb by unhooking the headlight bulb holder tabs.



1. Headlight bulb holder tab (× 2)

⚠ WARNING

POTENTIAL HAZARD

A headlight bulb is hot when it is on and immediately after it is turned off.

WHAT CAN HAPPEN

You can be burned, or a fire could start if the bulb touches something flammable.

HOW TO AVOID THE HAZARD

Wait for the bulb to cool before touching or removing it.

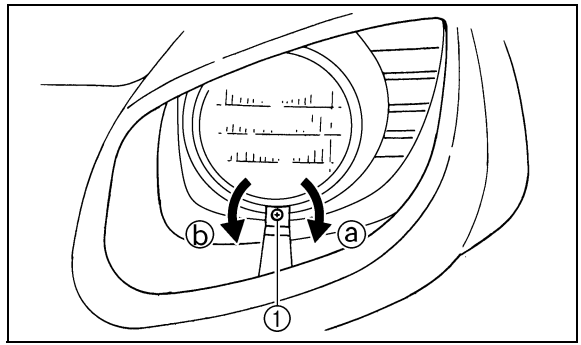
5. Insert a new headlight bulb into the bulb holder, and then hook the headlight bulb holder tabs.
6. Install the headlight bulb holder by turning it clockwise.
7. Install the headlight bulb holder cover at the rear of the headlight.
8. Close the hood.

Headlight beam adjustment

CAUTION:

It is advisable to have a Yamaha dealer make this adjustment.

To raise the beam, turn the adjusting screw in direction ⓐ.
To lower the beam, turn the adjusting screw in direction ⓑ.

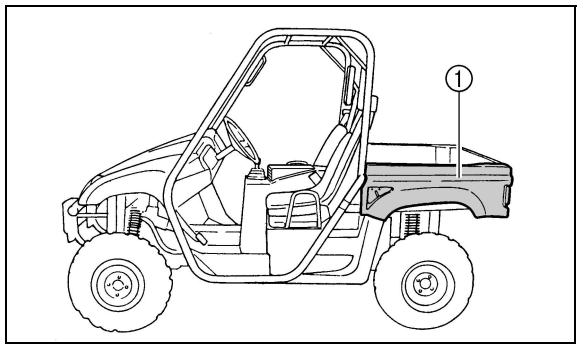


1. Headlight beam adjusting screw

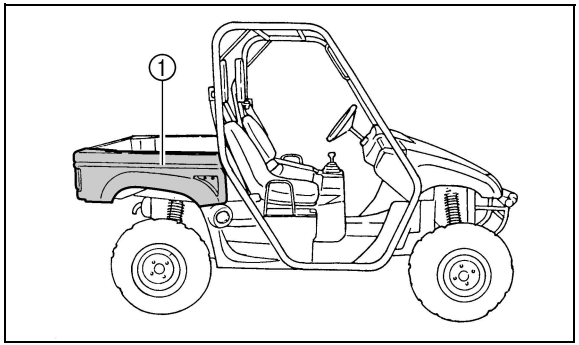
Tail/brake light bulb replacement

If a tail/brake light bulb burns out, replace it as follows:

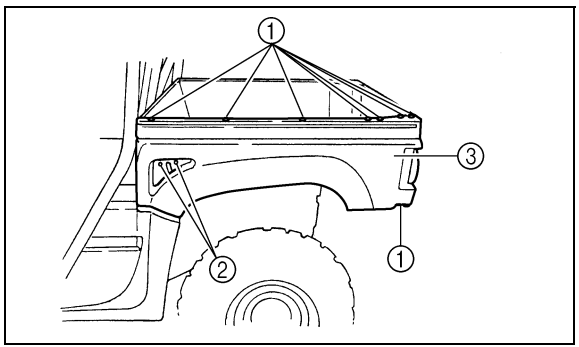
1. Remove panel A (if replacing the left tail/brake bulb) or panel B (if replacing the right tail/brake bulb) by removing the quick fasteners and bolts.



1. Panel A

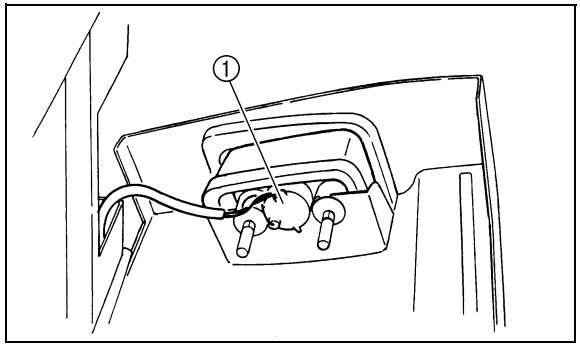


1. Panel B



1. Quick fastener (× 8)
2. Bolt (× 2)
3. Panel A

2. Remove the bulb holder (together with the bulb) by turning it counterclockwise.



1. Tail/brake light bulb holder

3. Push the defective bulb in and turn it counterclockwise to remove it from the bulb holder.
4. Push a new bulb in and turn it clockwise to install in the bulb holder.
5. Install the bulb holder (together with the bulb) by turning it clockwise.
6. Install the panel by installing the quick fasteners and bolts, and then tighten the bolts to the specified torque.

Tightening torque:
Panel bolt:
6.5 N·m (0.65 m·kgf, 4.7 ft·lbf)

Troubleshooting

Although Yamaha vehicles receive a rigid inspection before shipment from the factory, trouble may occur during operation. Any problem in the fuel, compression, or ignition systems can cause poor starting and loss of power. The troubleshooting chart describes a quick, easy procedure for making checks. If your vehicle requires any repair, take it to a Yamaha dealer.

The skilled technicians at a Yamaha dealership have the tools, experience, and know-how to properly service your vehicle. Use only genuine Yamaha parts on your vehicle. Imitation parts may look like Yamaha parts, but they are often inferior. Consequently, they have a shorter service life and can lead to expensive repair bills.

⚠ WARNING

POTENTIAL HAZARD

Checking the fuel system while smoking or near an open flame.

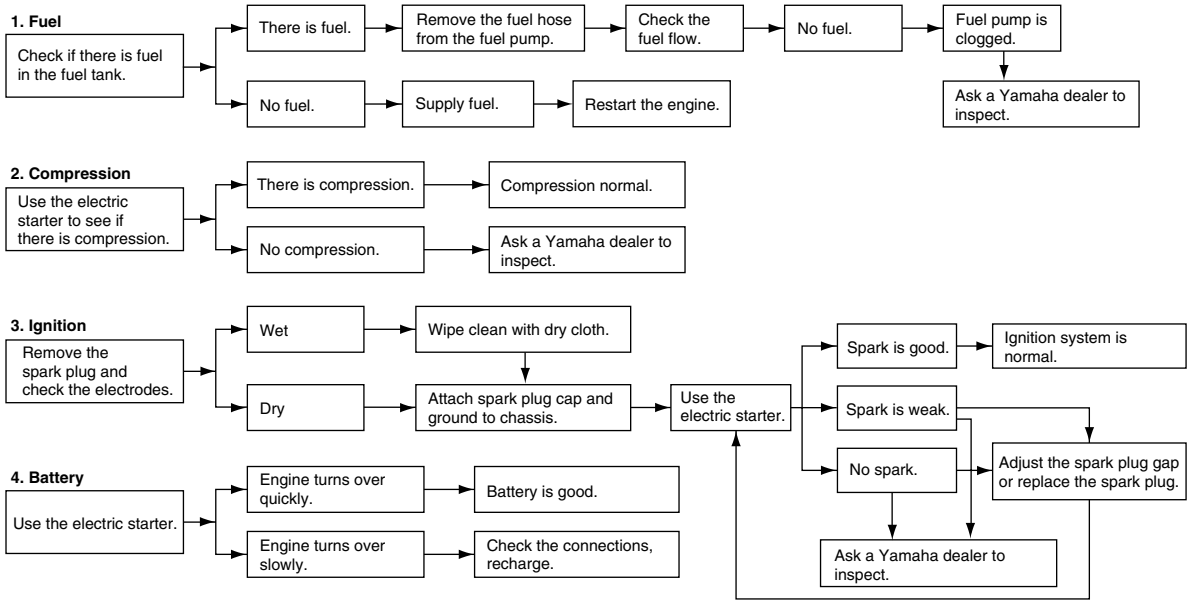
WHAT CAN HAPPEN

Fuel can ignite or explode, causing severe injury or property damage.

HOW TO AVOID THE HAZARD

Do not smoke when checking the fuel system. Make sure there are no open flames or sparks in the area, including pilot lights from water heaters or furnaces.

Troubleshooting charts
Starting problems or poor engine performance


1. Fuel
Check if there is fuel in the fuel tank.
There is fuel.
Remove the fuel hose from the fuel pump.
Check the fuel flow.
No fuel.
Fuel pump is clogged.
Ask a Yamaha dealer to inspect.
No fuel.
Supply fuel.
Restart the engine.
2. Compression
Use the electric starter to see if there is compression.
There is compression.
Compression normal.
No compression.
Ask a Yamaha dealer to inspect.
3. Ignition
Remove the spark plug and check the electrodes.
Wet
Wipe clean with dry cloth.
Dry
Attach spark plug cap and ground to chassis.
Use the electric starter.
Spark is good.
Ignition system is normal.
Spark is weak.
No spark.
Adjust the spark plug gap or replace the spark plug.
Ask a Yamaha dealer to inspect.
4. Battery
Use the electric starter.
Engine turns over quickly.
Battery is good.
Engine turns over slowly.
Check the connections, recharge.

Engine overheating

⚠ WARNING

POTENTIAL HAZARD

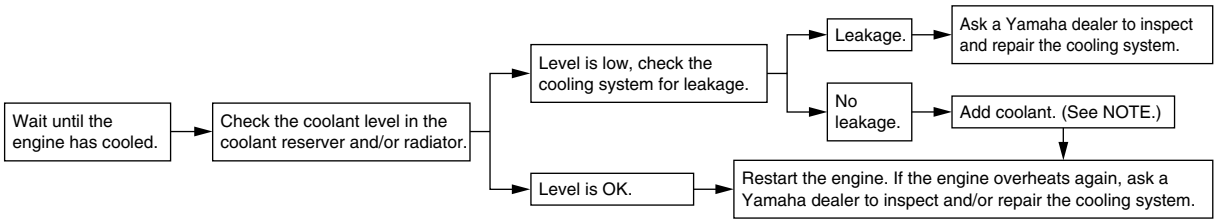
Removing the radiator cap when the engine and radiator are still hot.

WHAT CAN HAPPEN

You could be burned by hot fluid and steam blown out under pressure.

HOW TO AVOID THE HAZARD

Wait for the engine to cool before removing the radiator cap. Always use a thick rag over the cap. Allow any remaining pressure to escape before completely removing the cap.


Wait until the engine has cooled.
Check the coolant level in the coolant reserver and/or radiator.
Level is low, check the cooling system for leakage.
Leakage.
Ask a Yamaha dealer to inspect and repair the cooling system.
No leakage.
Add coolant. (See NOTE.)
Level is OK.
Restart the engine. If the engine overheats again, ask a Yamaha dealer to inspect and/or repair the cooling system.

NOTE:

If it is difficult to get the recommended coolant, tap water can be temporarily used, provided that it is changed to the recommended coolant as soon as possible.

CLEANING AND STORAGE

A. CLEANING

Frequent, thorough cleaning of your vehicle will not only enhance its appearance but will improve its general performance and extend the useful life of many components.

1. Before cleaning the vehicle:
   a. Block off the end of the exhaust pipe to prevent water entry. A plastic bag and strong rubber band may be used.
   b. Make sure the spark plug and all filler caps are properly installed.
2. If the engine case is excessively greasy, apply degreaser with a paint brush. Do not apply degreaser to the wheel axles.
3. Rinse the dirt and degreaser off with a garden hose. Use only enough pressure to do the job.

CAUTION:

Excessive water pressure may cause water seepage and deterioration of wheel bearings, brakes, transmission seals and electrical devices. Many expensive repair bills have resulted from improper high pressure detergent applications such as those available in coin-operated car washers.

4. Once the majority of the dirt has been hosed off, wash all surfaces with warm water and mild, detergent-type soap. An old toothbrush or bottle brush is handy for hard-to-get-at places.
5. Rinse the vehicle off immediately with clean water and dry all surfaces with a chamois, clean towel or soft absorbent cloth.

6. Clean the seats with a vinyl upholstery cleaner to keep the cover pliable and glossy.
7. Automotive type wax may be applied to all painted and chrome plated surfaces. Avoid combination cleaner-waxes. Many contain abrasives which may scratch the paint or protective finish. When finished, start the engine and let it idle for several minutes.

⚠ WARNING

POTENTIAL HAZARD

Operation with wet brakes after washing.

WHAT CAN HAPPEN

Wet brakes may have reduced stopping ability, increasing the chance of an accident.

HOW TO AVOID THE HAZARD

Test the brakes after washing. Apply the brakes several times at slow speeds to let friction dry out the linings.

B. STORAGE

Long term storage (60 days or more) of your vehicle will require some preventive procedures to guard against deterioration. After thoroughly cleaning the vehicle, prepare for storage as follows:

1. Fill the fuel tank with fresh fuel and add the specified amount of Yamaha Fuel Stabilizer and Conditioner or equivalent product. Operate the vehicle for at least 5 minutes to distribute treated fuel through the fuel system.
2. Drain the fuel from the carburetor float chamber into a clean container by loosening the drain bolt; this will help prevent fuel deposits from building up. Pour the drained fuel into the fuel tank.

Specified amount:
1 oz of stabilizer to each gallon of fuel (or 7.5 cc of stabilizer to each liter of fuel)

NOTE:

Use of fuel stabilizer and conditioner eliminates the need to drain the fuel system. Consult a Yamaha dealer if the fuel system needs to be drained instead.

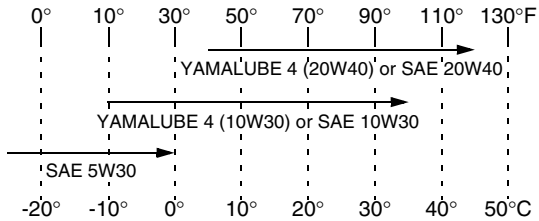
3. Remove the spark plug, pour about one tablespoon of SAE 10W30 or 20W40 motor oil in the spark plug hole and reinstall the spark plug. Ground the spark plug wire and turn the engine over several times to coat the cylinder wall with oil.
4. Lubricate all control cables.
5. Block up the frame to raise all wheels off the ground.
6. Tie a plastic bag over the exhaust pipe outlet to prevent moisture from entering.
7. If storing in a humid or salt-air atmosphere, coat all exposed metal surfaces with a light film of oil. Do not apply oil to any rubber parts or the seat covers.

8. Remove the battery and charge it. Store it in a dry place and recharge it once a month. Do not store the battery in an excessively warm or cold place (less than 0 °C (30 °F) or more than 30 °C (90 °F)).

NOTE:
Make any necessary repairs before storing the vehicle.

SPECIFICATIONS

Model	YXR660FA
Dimensions:	
Overall length	2,885 mm (113.6 in)
Overall width	1,385 mm (54.5 in)
Overall height	1,853 mm (73.0 in)
Seat height	818 mm (32.2 in)
Wheelbase	1,910 mm (75.2 in)
Ground clearance	273 mm (10.75 in)
Minimum turning radius	3,900 mm (153.5 in)
Basic weight:	
With oil and full fuel tank	509.0 kg (1,122 lb)
Engine:	
Engine type	Liquid-cooled 4-stroke, SOHC
Cylinder arrangement	Forward-inclined single cylinder
Displacement	660.0 cm^3
Bore × stroke	100.0 × 84.0 mm (3.94 × 3.31 in)
Compression ratio	9.10 :1
Starting system	Electric starter
Lubrication system	Wet sump

Model	YXR660FA
Engine oil:	
Type	
Recommended engine oil classification	API Service SE, SF, SG type or higher
	CAUTION: **In order to prevent clutch slippage (since the engine oil also lubricates the clutch), do not mix any chemical additives. Do not use oils with a diesel specification of "CD" or oils of a higher quality than specified. In addition, do not use oils labeled "ENERGY CONSERVING II" or higher.**
Quantity:	
Without oil filter cartridge replacement	1.90 L (1.67 Imp qt, 2.01 US qt)
With oil filter cartridge replacement	2.00 L (1.76 Imp qt, 2.11 US qt)

10

Model	YXR660FA
Final gear case oil:	
Type	SAE80 API GL-4 Hypoid gear oil
Quantity:	0.25 L (0.22 Imp qt, 0.26 US qt)
Differential gear case oil:	
Type	SAE80 API GL-4 Hypoid gear oil
Quantity:	0.32 L (0.28 Imp qt, 0.34 US qt)
Radiator capacity (including all routes):	2.50 L (2.20 Imp qt, 2.64 US qt)
Air filter:	Wet element
Fuel:	
Type	UNLEADED GASOLINE ONLY
Fuel tank capacity	30.0 L (6.60 Imp gal, 7.93 US gal)
Carburetor:	
Type/quantity	BSR42/1
Manufacturer	MIKUNI
Spark plug:	
Type/manufacturer	DPR8EA-9/NGK
Spark plug gap	0.8–0.9 mm (0.031–0.035 in)
Clutch type:	Wet, centrifugal automatic

Model		YXR660FA
Transmission:		
Primary reduction system		V-belt
Secondary reduction system		Shaft drive
Secondary reduction ratio		41/21 × 24/18 × 33/9 (9.544)
Transmission type		V-belt automatic
Operation		Right hand operation
Reverse gear		25/17 (1.471)
Sub transmission ratio	low	35/17 (2.058)
	high	28/19 (1.473)
Chassis:		
Frame type		Steel tube frame
Caster angle		5.0°
Trail		26.0 mm (1.02 in)
Tire:		
Type		Tubeless
Size	front	25 × 8-12NHS
	rear	25 × 10-12NHS

Model		YXR660FA
Brakes:		
System		Front and rear unified
Type	front	Dual disc brake
	rear	Single disc brake
Operation		Foot operation
Suspension:		
Front suspension		Double wishbone
Rear suspension		Double wishbone
Shock absorber:		
Front shock absorber		Coil spring/oil damper
Rear shock absorber		Coil spring/oil damper
Wheel travel:		
Front wheel travel		185.0 mm (7.28 in)
Rear wheel travel		185.0 mm (7.28 in)
Electrical:		
Ignition system		DC. CDI
Generator system		A.C. magneto
Battery type		U1L-11
Battery capacity		12 V 28.0 Ah
Headlight type:		Krypton bulb

Model	YXR660FA
Bulb voltage, wattage × quantity:	
Headlight	12 V 30 W/30.0 W × 2
Tail/brake light	12 V 5 W/21.0 W × 2
Indicator lights:	
Neutral indicator light	12 V 1.7 W × 1
Reverse indicator light	12 V 1.7 W × 1
Coolant temperature warning light	12 V 1.7 W × 1
Parking brake indicator light	12 V 1.7 W × 1
Four-wheel-drive indicator light	12 V 1.7 W × 1
Differential gear lock indicator light	12 V 1.7 W × 1
Specified fuses:	
Main fuse	30.0 A
Headlight fuse	15.0 A
Ignition fuse	10.0 A
Auxiliary DC jack fuse	10.0 A
Four-wheel-drive fuse	3.0 A
Carburetor heater fuse	10.0 A
Signaling system fuse	10.0 A
Backup fuse	10.0 A

NOISE REGULATION

TAMPERING WITH NOISE CONTROL SYSTEM PROHIBITED:

Federal law prohibits the following acts or the causing thereof: (1) The removal or rendering inoperative by any person other than for purposes of maintenance, repair, or replacement of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use or (2) the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

“AMONG THOSE ACTS PRESUMED TO CONSTITUTE TAMPERING ARE THE ACTS LISTED BELOW.”

These acts include tampering with the following systems; i.e., modification, removal, etc.

Exhaust system	Muffler Exhaust pipe Silencer
Intake system	Air cleaner case Air cleaner element Intake duct

MAINTENANCE RECORD

Copies of work orders and/or receipts for parts you purchase and install will be required to document maintenance done in accordance with the warranty. The chart below is printed only as a reminder to you that the maintenance work is required. It is not acceptable proof of maintenance work.

MAINTENANCE INTERVAL			DATE OF SERVICE	MILEAGE	SERVICING DEALER NAME AND ADDRESS	REMARKS
month	km (mi)	hours				
1	320 (200)	20				
3	1,200 (750)	75				
6	2,400 (1,500)	150				
12	4,800 (3,000)	300				
18	7,200 (4,500)	450				
24	9,600 (6,000)	600				
30	12,000 (7,500)	750				
36	14,400 (9,000)	900				
42	16,800 (10,500)	1,050				
48	19,200 (12,000)	1,200				
54	21,600 (13,500)	1,350				
60	24,000 (15,000)	1,500				

YAMAHA MOTOR CORPORATION, U.S.A.
SIDE × SIDE VEHICLE LIMITED WARRANTY

Yamaha Motor Corporation, U.S.A. hereby warrants that new Yamaha Side × Side vehicles purchased from an authorized Yamaha Side × Side Vehicle dealer in the continental United States will be free from defects in material and workmanship for the period of time stated herein, subject to certain stated limitations.

THE PERIOD OF WARRANTY for YXR OR YXP Yamaha Side × Side vehicles shall be six (6) months from the date of purchase, with no mileage limitation.

MODELS EXCLUDED FROM WARRANTY include those used for non-Yamaha-authorized renting, leasing, or other commercial purposes.

DURING THE PERIOD OF WARRANTY any authorized Yamaha Side × Side Vehicle dealer will free of charge, repair or replace, at Yamaha's option, any part adjudged defective by Yamaha due to faulty workmanship or material from the factory. Parts used in warranty repairs will be warranted for the balance of the product's warranty period. All parts replaced under warranty become property of Yamaha Motor Corporation, U.S.A.

GENERAL EXCLUSIONS from this warranty shall include any failures caused by:

a. Competition or racing use.
b. Installation of parts or accessories that are not qualitatively equivalent to genuine Yamaha parts.
c. Abnormal strain, neglect, or abuse.
d. Lack of proper maintenance.
e. Accident or collision damage.
f. Modification to original parts.
g. Damage due to improper transportation.

SPECIFIC EXCLUSIONS from this warranty shall include parts replaced due to normal wear or routine maintenance; such as spark plugs, oil, oil filter, air filter, and brake shoes.

THE CUSTOMER'S RESPONSIBILITY under this warranty shall be to:

1. Operate and maintain the Side-by-Side vehicle as specified in the appropriate Owner's Manual, and
2. Give notice to an authorized Yamaha Side × Side Vehicle dealer of any and all apparent defects within ten (10) days after discovery, and make the machine available at that time for inspection and repairs at such dealer's place of business.

WARRANTY TRANSFER: To transfer the warranty from the original purchaser to any subsequent purchaser(s), it is imperative that the Side-by-Side vehicle be inspected and registered for warranty by an authorized Yamaha Side-by-Side Vehicle dealer. In order for this warranty to remain in effect, this inspection and registration must take place within ten (10) days after transfer of ownership to the subsequent purchaser. A reasonable dealer imposed fee may be charged for this inspection.

YAMAHA MOTOR CORPORATION, U.S.A. MAKES NO OTHER WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEED THE OBLIGATIONS AND TIME LIMITS STATED IN THIS WARRANTY ARE HEREBY DISCLAIMED BY YAMAHA MOTOR CORPORATION, U.S.A. AND EXCLUDED FROM THIS WARRANTY.

SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. ALSO EXCLUDED FROM THIS WARRANTY ARE ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES INCLUDING LOSS OF USE. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE EXCLUSION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

YAMAHA EXTENDED SERVICE (Y.E.S.)

Keep your Yamaha protected even after your warranty expires with genuine Yamaha Extended Service (Y.E.S.).

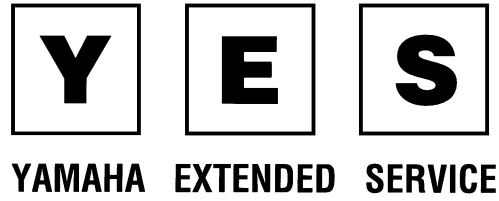
- Y.E.S. is designed and administered by Yamaha Motor Corporation to provide maximum owner satisfaction. You get uninterrupted factory-backed coverage for extra peace of mind.
- Y.E.S. is flexible. You choose the plan that's right for you: 12 months, 24 months, or 36 months beyond your warranty period.
- Y.E.S. is designed and administered by the same Yamaha people who handle your warranty – and it shows in the comprehensive coverage benefits. There are no mileage limitations. Coverage isn't limited to "moving parts" or the "drive train" like many other plans. And Y.E.S. covers manufacturing defects just like the warranty. See the sample contract at your Yamaha dealer to see how comforting uninterrupted factory-backed protection can be.
- You don't have to pay anything for covered repairs. There's no deductible to pay, and repairs aren't "pro-rated." You don't have any "out-of-pocket" expenses for covered repairs.
- In addition, Travel and Recreation Interruption Protection (TRIP) is included at no extra cost. TRIP gives you up to $150 reimbursement per occurrence for any reasonable expenses you incur because your Yamaha needs covered service: replacement vehicle rental, emergency towing, phone calls, even food and lodging when you are away from home. This superb coverage goes into effect when you purchase Y.E.S., so it applies to any warranty repairs as well as covered repairs during your entire Y.E.S. plan period.
- Y.E.S. coverage is honored at any authorized Yamaha dealer nationwide.
- Y.E.S. coverage is transferable to a new owner if you sell or trade-in. That can make your Yamaha much more valuable!

This excellent Y.E.S. plan coverage is only available to Yamaha owners like you, and only while your Yamaha is still within the Yamaha Limited Warranty period. So visit your authorized Yamaha dealer to get all the facts. He can show you how easy it is to protect your investment with Yamaha Extended Service.

We urge you to act now. You'll get the excellent benefits of TRIP coverage right away, and you'll rest easy knowing you'll have strong factory-backed protection even after your Yamaha Limited Warranty expires. You can also save money: Y.E.S. costs less within the first 90 days after you buy your Yamaha. See your dealer today!

A special note:
If visiting your dealer isn't convenient, contact Yamaha with your Primary ID number (your frame number). We'll be happy to help you get the Y.E.S. coverage you need.

Yamaha Service Marketing
P.O. Box 6555
Cypress, CA 90630



PROTECT YOUR INVESTMENT

Use Genuine YAMAHA Parts And Accessories

See your Authorized YAMAHA Dealer for a Genuine YAMAHA Service Manual.

YAMAHA

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